

PRICE ONE SHILLING.

THE  
ILLUSTRATED  
LONDON ALMANACK  
FOR  
1864,



CONTAINING  
ASTRONOMICAL ILLUSTRATIONS, PRINTED IN TINTS;  
ORIGINAL DESIGNS AS HEADINGS TO THE CALENDAR;  
PICTURES OF FRESH-WATER FISH,  
PRINTED IN COLOURS, BY LEIGHTON BROTHERS;  
NUMEROUS FINE-ART ENGRAVINGS; AND A VARIETY OF USEFUL INFORMATION.

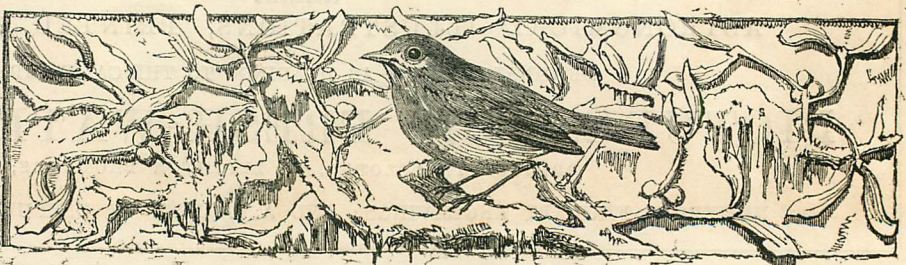
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WILD CAT.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.		MOON			HIGH WATER AT				
			Rises.	Sets.	Rises.	Sets.	Age	London Bridge.		Liverpool Dock.		
			H.	M.	Morn.	Morn.	Dys	Morn.	Aftern.	Morn.	Aftern.	
1	F	<i>Circumcision</i>	8	83	59	—	10 52	22	6 12	6 34	3 12	3 33
2	S	Day breaks 6h. 1m.	8	84	0	0 12	11 12	6	6 54	7 16	3 54	4 18
3	S	2NDS. S. AFT. CHRIST.	8	84	1	1 21	11 35	24	7 40	8 8	4 46	5 20
4	M	[Wyatt died, 1862]	8	84	2	2 32	Aftern.	25	8 42	9 17	5 55	6 31
5	Tu	Radetzky died, 1858	8	84	3	3 44	0 41	26	9 53	10 30	7 8	7 47
6	W	<i>Epiphany</i> [Old Christ- mas Day.]	8	74	5	4 54	1 27	27	11 9	11 44	8 22	8 53
7	Th	French Army in Mexico, 1862	8	74	6	6 0	2 24	28	—	0 15	9 22	9 48
8	F	<i>Lucian</i>	8	74	7	6 58	3 34	29	0 44	1 10	10 15	10 40
9	S	Nelson's Funeral, 1806	8	64	9	7 45	4 54	30	1 37	2 2	11 4	11 29
10	S	1ST S. AFT. EPIPH.	8	64	10	8 25	6 17	1	2 26	2 51	11 53	—
11	M	Hilary Term begins	8	54	11	8 56	7 41	2	3 15	3 39	0 17	0 39
12	Tu	Twilight ends 6h. 16m.	8	44	13	9 23	9 4	3	4 1	4 25	1 3	1 28
13	W	Cambridge Lent Term begins	8	44	14	9 48	10 24	4	4 50	5 12	1 50	2 12
14	Th	Oxford Lent Term begins	8	34	16	10 12	11 42	5	5 34	5 57	2 35	2 57
15	F	Emperor Napoleon elected President, 1852	8	24	17	10 37	Morn.	6	6 19	6 42	3 20	3 44
16	S	Hartley Colliery Accident, 1861	8	14	19	11 4	0 58	7	7 6	7 30	4 8	4 37
17	S	2ND S. AFT. EPIPH.	8	04	20	11 35	2 9	8	7 59	8 32	5 10	5 47
18	M	<i>Prisca</i>	8	04	22	Aftern.	3 14	9	9 9	9 46	6 24	7 3
19	Tu	Length of day 8h. 25m.	7	59	4 24	0 52	4 15	10	10 25	11 4	7 42	8 21
20	W	<i>Fubian</i>	7	58	4 25	1 42	5 9	11	11 43	—	8 53	9 22
21	Th	<i>Agnes</i> . [Junius's 1st letter appeared, 1769]	7	56	4 27	2 36	5 55	12	0 15	0 44	9 48	10 11
22	F	<i>Vincent</i>	7	55	4 29	3 35	6 34	13	1 10	1 33	10 33	10 52
23	S	French Treaty signed, 1860	7	54	4 30	4 40	7 7	14	1 55	2 14	11 11	11 28
24	S	SEPTUAGESIMA	7	53	4 32	5 43	7 33	15	2 33	2 50	11 44	—
25	M	Conversion of St. Paul	7	52	4 34	6 46	7 57	16	3 6	3 23	0 1	0 17
26	Tu	Day breaks 5h. 52h.	7	50	4 36	7 51	8 17	17	3 39	3 53	0 31	0 47
27	W	Peter the Great died, 1725	7	49	4 37	8 56	8 38	18	4 9	4 24	1 2	1 17
28	Th	Twilight ends 6h. 40m.	7	48	4 39	10 1	8 58	19	4 39	4 55	1 33	1 49
29	F	Victoria Cross inst., 1856	7	46	4 41	11 8	9 19	20	5 11	5 26	2 4	2 21
30	S	Charles I. beheaded	7	45	4 43	Morn.	9 40	21	5 43	5 59	2 37	2 56
31	S	SEXAGESIMA	7	43	4 44	0 15	10 6	22	6 18	6 37	3 15	3 38







"MORNING," BY DICKSEE.—FROM "THE ILLUSTRATED LONDON NEWS."



## THE QUEEN AND ROYAL FAMILY.

THE QUEEN.—VICTORIA, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, was born at Kensington Palace, May 24, 1819; succeeded to the throne June 20, 1837, on the death of her uncle, King William IV.; was crowned June 28, 1838; and married, February 10, 1840, to his Royal Highness Prince Albert. Her Majesty is the only child of his late Royal Highness Edward Duke of Kent, son of King George III. The children of her Majesty are:—

Her Royal Highness Victoria-Adelaide-Mary-Louisa, PRINCESS ROYAL, born November 21, 1840, and married to his Royal Highness Prince Frederick William of Prussia, January 25, 1853.

His Royal Highness Albert-Edward, PRINCE OF WALES, born November 9, 1841; married, March 10, 1863, Alexandra of Denmark (Princess of Wales), born December 1, 1844.

Her Royal Highness Alice-Maud-Mary, born April 25, 1843; married to H.R.H. Prince Frederick Louis of Hesse, July 1, 1862.

His Royal Highness Alfred-Ernest-Albert, born August 6, 1844.

Her Royal Highness Helena-Augusta-Victoria, born May 25, 1846.

Her Royal Highness Louisa-Carolina-Alberta, born March 18, 1848.

His Royal Highness Arthur-William-Patrick-Albert, born May 1, 1850.

His Royal Highness Leopold-George-Duncan-Albert, born April 7, 1853.

Her Royal Highness Beatrice-Mary-Victoria-Feodore, born April 14, 1857.

George-Frederick-William Charles, K.G., DUKE OF CAMBRIDGE, cousin to her Majesty, born March 26, 1819.

Augusta-Wilhelmina-Louisa, DUCHESS OF CAMBRIDGE, niece of the Landgrave of Hesse, born July 25, 1795; married, in 1818, the late Duke of Cambridge; aunt to her Majesty.

George-Frederick-Alexander-Charles-Ernest-Augustus, K.G., KING OF HANOVER, cousin to her Majesty, born May 27, 1819.

Augusta-Caroline-Charlotte-Elizabeth-Mary-Sophia-Louisa, daughter of the late Duke of Cambridge, and cousin to her Majesty, born July 19, 1822.

Mary-Adelaide-Wilhelmina-Elizabeth, daughter of the late Duke of Cambridge, and cousin to her Majesty, born November 27, 1833.

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Librarian .. .. .	B. B. Woodward, Esq.

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Captain of the Gentlemen-at-Arms .. .. .	Lord Feley.
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Dean of Chapel Royal .. .. .	Bishop of London.
Sub-Dean .. .. .	Rev. F. Garden.
Clerk of the Closets .. .. .	Bishop of Chester.
Resident Chaplain .. .. .	Dean of Windsor.
Mistress of the Robes .. .. .	Duchess of Wellington.
Groom .. .. .	Major-Gen. F. H. Seymour.
Secretary .. .. .	J. J. Kinloch, Esq.

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Master of the Buckhounds .. .. .	Earl of Bessborough.

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Bavaria .. Sir J. R. Milbank, Bart.	Baron de Cetto
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Denmark .. Aug. Berkeley Paget, Esq.	M. Thorben de Bille
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Sweden .. Hon. G. S. S. Jermingham ..	Count Wachtmeister
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Secretary and Clerk of Council .. .. .	W. Bateman, Esq.
Attorney-General .. .. .	Sir W. J. Alexander, Q.C.

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Chancellor of the Exchequer .. .. .	Right Hon. W. E. Gladstone.
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Lord Privy Seal .. .. .	Duke of Argyll.
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Foreign Affairs .. .. .	Right Hon. Sir G. Grey.
Colonies .. .. .	Earl De Grey and Ripon.
War .. .. .	Right Hon. Sir C. Wood.
India .. .. .	Duke of Somerset.
First Lord of the Admiralty .. .. .	Right Hon. T. M. Gibson.
President of the Board of Trade .. .. .	Right Hon. E. Cardwell.
Chancellor of the Duchy of Lancaster .. .. .	Right Hon. C. P. Villiers.
President of the Poor-law Board .. .. .	Lord Stanley of Alderley.
Postmaster-General .. .. .	(The above form the Cabinet.)

First Commissioner of Works .. .. .	Right Hon. W. T. Cowper.
Secretary for Ireland .. .. .	Right Hon. Sir Robert Peel.

## SCOTLAND.

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Keeper of the Great Seal .. .. .	Earl of Selkirk.
Deputy Keeper of the Great Seal .. .. .	J. H. Mackenzie, Esq.
Lord Privy Seal .. .. .	Earl of Dalhousie, K.T.
Knight Marshal .. .. .	Duke of Hamilton.
Master of the Household .. .. .	Duke of Argyll, K.T.
Standard Bearer .. .. .	Earl of Lauderdale.
Lord High Commissioner .. .. .	Lord Belhaven.
Lord Justice General .. .. .	Right Hon. D. McNeill.
Lord Justice Clerk .. .. .	Right Hon. John Inglis.
Lord Advocate .. .. .	Right Hon. J. Moncrieff.
Solicitor-General .. .. .	G. Young, Esq.
Deputy Clerk Register .. .. .	W. P. Dundas, Esq.
Commander of the Forces .. .. .	Major-Gen. E. W. F. Walker, C.B.
Assistant Adjutant-General .. .. .	Colonel Sir J. Douglas, K.C.B.

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Chief Secretary and Keeper of Privy Seal .. .. .	Sir Robert Peel.
Under Secretary .. .. .	Major-Gen. Sir T. Larcom, K.C.B.
Chief Clerk .. .. .	R. N. Matheson, Esq.
State Steward .. .. .	Viscount St. Lawrence.
Private Secretary to State Steward .. .. .	J. Hatchell, Esq.
Chamberlain .. .. .	Captain P. Butler.
Lord Chancellor .. .. .	Right Hon. M. Brady.
Secretary to the Lord Chancellor .. .. .	M. Perrin, Esq.
Master of the Rolls .. .. .	Right Hon. T. B. C. Smith.
Attorney-General .. .. .	Right Hon. T. O'Hagan.
Solicitor-General .. .. .	J. A. Lawson, Esq., LL.D.
Commander of the Forces .. .. .	
Military Secretary .. .. .	Lieut.-Colonel E. A. Whitmore.

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LORD MAYOR ELECT—Right Hon. WILLIAM LAWRENCE (Broad-street, 1855).

SHERIFFS—N. H. Nissen, Esq., and C. Cayo, Esq.

UNDER-SHERIFFS—J. W. Nicholson, Esq., and C. Gammon, Esq.

CHAMBERLAIN—Benjamin Scott, Esq.

RECORDER—Russell Gurney, Esq., Q.C.

COMMON SERJEANT—R. Chambers, Esq., Q.C.

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THE FOLLOWING HAVE PASSED THE CHAIR.

Copeland, William Taylor, Esq.	Bishopsgate .. .. .	1829
Wilson, Samuel, Esq.	Bridge Without .. .. .	1831
Humphrey, John, Esq.	Aldgate .. .. .	1835
Duke, Sir James, Bart.	Farringdon Without .. .. .	1840
Musgrove, Sir John, Bart.	Broad-street .. .. .	1842
Challis, Thomas, Esq.	Cripplegate .. .. .	1843
Sidney, Thomas, Esq.	Billingsgate .. .. .	1844
Moore, Sir Francis Graham, Bart.	Portoken .. .. .	1844
Salomons, David, Esq.	Cordwainer .. .. .	1848
Finnis, Thomas Quested	Tower .. .. .	1848
Carden, Sir Robert Walter	Dowgate .. .. .	1849
Carter, John, Esq.	Cornhill .. .. .	1851
Rose, William Anderson	Queenhithe .. .. .	1856

THE FOLLOWING HAVE NOT PASSED THE CHAIR.

Hale, W. S., Esq.	Coleman-street .. .. .	1856
Phillips, Benjamin Samuel, Esq.	Farringdon Within .. .. .	1857
Gabriel, Thomas, Esq.	Vinty .. .. .	1857
Allen, W. P., Esq.	Cheap .. .. .	1858
Mech, John Joseph, Esq.	Lime-street .. .. .	1858
Conder, Edward, Esq.	Bassishaw .. .. .	1858
Abbis, James, Esq.	Bridge Within .. .. .	1859
Lawrence, Jas. Clarke, Esq.	Walbrook .. .. .	1860
Dakin, Thomas, Esq.	Candlewick .. .. .	1861
Bealey, Robert, Esq.	Aldersgate .. .. .	1862
Gibbons, S. J., Esq.	Castle Baynard .. .. .	1862
Waterlow, Sydney, Esq.	Langbourne .. .. .	1863



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Comptroller—Lord Monteagle.  
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Chief Clerk—H. B. Drewry.  
Private Secretary—B. M. Seton.  
Private Sec. to Marquis of Hartington—R. H. Hobart.  
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Inspector-General of Volunteers—Col. M'Murdo.  
Commissioner-General in Chief—J. W. Smith, C.B.  
Director-General of Army Medical Department—Dr. J. Gibson, C.B.  
Chaplain-General—Rev. C. R. Gleig.  
Director of Stores, &c.—Capt. Caillin.  
Assistant—D. Ramsay.  
Director of Contracts—T. Howell.  
Accountant-General—W. Brown.  
Assistants—Accountant-General—J. Milton, M. S. Whiffen.  
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Librarian—W. O. Marshall.

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Accountant—H. R. Williams.  
Legal Assistant—W. D. Fane.

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Assistant—R. Vally.

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Secretary—J. W. Bateman.

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Private Secretary—J. L. Du P. Taylor.

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Assistant Secretary—G. Dickens.

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Solicitor-General—Sir R. Palmer.  
Queen's Serjeant—J. Manning.  
Queen's Advocate-General—Sir T. R. Phillimore.

## CIVIL SERVICE COMMISSION,

DEAN'S-YARD, WESTMINSTER.  
Commissioners—Right Hon. Sir E. Ryan, Sir J. G. S. Lefevre, K.C.B.  
Secretary—T. Walrod.  
Registrar—H. Mann.

## COPYHOLD. &amp;c., COMMISSION,

3, ST. JAMES'S-SQUARE.  
Commissioners—G. Bidley, G. Darby, G. W. Cooke.

## CHARITY COMMISSION,

8, YORK-STREET, ST. JAMES'S.  
Unpaid Commissioner—Right Hon. R. Lowe.  
Chief Commissioner—P. Erie.  
Secretary—H. M. Vane.

## ESTATES COMMISSION,

10, WHITEHALL PLACE.  
Ecclesiastical Commissioners—The Archbishops, Bishops, &c.  
Church Estates Commissioners—Earl of Chichester, Right Hon. E. P. Bouverie, Right Hon. G. H. Walpole.  
Secretary—J. J. Chalk.  
Assistant Secretary—G. Fringie.

## EMIGRATION COMMISSION,

8, PARK-STREET, WESTMINSTER.  
Commissioners—T. W. C. Murdoch, S. Walcott.  
Secretary—J. Walpole.

## ROYAL MINT,

TOWER-HILL.  
Master—T. Graham.  
Deputy and Comptroller—W. H. Barton.

## PUBLIC WORKS LOAN OFFICE.

Chairman—J. G. Hubbard.  
Deputy—Sir A. Y. Spearman, Bart.  
Secretary—W. W. Willink.

## TRINITY HOUSE,

TOWER-HILL.  
Master—Viscount Palmerston.  
Deputy—Capt. W. Pigott, R.N.  
Secretary—P. H. Berthon.

## HERALDS' COLLEGE,

DOCTORS' COMMONS.  
Earl Marshal—Duke of Norfolk.  
Deputy—Lord E. G. F. Howard.  
Secretary—E. S. Dendy.

## JUDGE ADVOCATE-GENERAL'S OFFICE,

35, GREAT GEORGE-STREET.  
Judge Advocate-General—Right Hon. T. E. Headlam.  
Deputy—S. C. Denison.

## GENERAL REGISTER OFFICE,

SOMERSET-HOUSE.  
Registrar-General—G. Graham.  
Chief Clerk—T. Mann.

## PUBLIC RECORD OFFICE,

ROLLS HOUSE, CHANCERY-LANE.  
Keeper—Sir J. Romilly.  
Deputy—T. H. Hardy.  
Secretary—C. Roberts.

## STATE PAPER OFFICE.

DUKE-STREET, WESTMINSTER.  
Deputy Keeper—C. Lechmere.  
First Clerk—R. Lemon.

## CHANCERY.

Lord High Chancellor—Lord Westbury.  
Chief Secretary—P. H. Popys.  
Secretary of Presentations—C. F. Tower.  
Secretary of Commissions of Peace—Hon. H. G. Campbell.  
Registrar in Lunacy—C. N. Wilde.  
Master of the Rolls—Sir J. Romilly.  
Chief Secretary—W. G. Brett.  
Under Secretary—A. Cox.  
Accountant-General—W. Russell.  
Lords Justices of Appeal—Sir J. L. K. Bruce, Sir G. J. Turner.  
Secretaries—E. R. Turner, L. K. Bruce.  
Vice-Chancellors—Sir R. T. Kindersley, Sir J. Stuart, Sir W. Page Wood.  
Secretaries—H. T. Erskine, D. Stuart, G. Whitbread.

## QUEEN'S BENCH.

Lord Chief Justice—Sir A. J. E. Cockburn, Bart.  
Judges—Sir W. Wightman, C. Crompton, C. Blackburn, J. Mellor.  
Associate to Lord Chief Justice—Hon. H. E. Campbell.

## COMMON PLEAS.

Lord Chief Justice—Sir W. Erie.  
Judges—Sir B. V. Williams, J. S. Willes, J. B. Byles, H. S. Keating.  
Associate to Lord Chief Justice—T. W. Erie.

## EXCHEQUER.

Lord Chief Baron—Sir F. Pollock.  
Barons—Sir S. Martin, G. W. Bramwell, W. F. Channell.  
Associate to Lord Chief Baron—H. Pollock.

## DUCY OF LANCASTER,

LANCASTER-PLACE, STRAND.  
Chancellor—Right Hon. R. Cardwell.  
Vice-Chancellor—W. M. James.  
Attorney-General—H. Bliss, Esq.  
Secretary—J. H. Good.

## ADMIRALTY COURT,

GODOLMAN-STREET.  
Judge—Rt. Hon. S. Lushington, D.L.C.  
Queen's Advocate—Sir R. J. Phillimore.  
Advocate-General—T. Twiss, D.C.L.  
Registrar—H. C. Rothery.

## COURT OF ARCHES,

3, GODOLMAN-STREET.  
Principal—Right Hon. S. Lushington.  
Registrar—J. Shephard.

## COURT OF PROBATE AND COURT OF MARRIAGE AND DIVORCE.

Judge Ordinary—Sir J. P. Wilde.  
Registrars—A. F. Bayford, C. J. Middleton, E. F. Jenner, H. L. Strong.  
Secretary—J. H. Paterson.

## VICAR-GENERAL'S OFFICE,

BELL-YARD, DOCTORS' COMMONS.  
Vicar-General—T. Twiss, D.C.L.  
Registrar—F. H. Dyke.

## FACULTY OFFICE,

10, GREAT KNIGHTRIDER-STREET.  
Master—Right Hon. S. Lushington.  
Registrar—Hon. J. Manners Sutton.

## BANKRUPTCY COURT,

BASINGHALL-STREET.  
Commissioners—J. S. M. Fonblanque, R. G. C. Fane, E. Holroyd, Serjeant E. Goulburn.  
Chief Registrar—W. H. Whitehead.

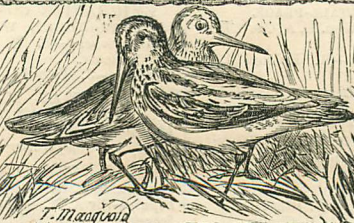


# FEBRUARY.



RED DEER—SOME OLD STAGS BEGIN TO SHED THEIR HORNS.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT				
			Rises.	Sets.		Rises.	Sets.	Age	London Bridge.	Liverpool Dock.	Morn.	Aftern.	
1	M	Hilary Term ends	7 42	4 46	1 26	10 38	6	7 0	7 23	4 1	4 28		
2	Tu	Purific. of B. V. M.	7 40	4 48	2 33	11 18	24	7 50	8 21	4 59	5 41		
3	W	Biot died, 1862 [Candlemas]	7 39	4 50	3 40	Aftern.	25	9 3	9 45	6 23	7 5		
4	Th	Nashville and Tuscarora at Southampton, 1862	7 37	4 52	4 40	1 9	26	10 27	11 9	7 47	8 17		
5	F	Agatha	7 36	4 54	5 31	2 22	27	11 49	—	9 3	9 33		
6	S	Priestley died, 1804	7 34	4 55	6 15	3 43	28	0 25	0 55	10 0	10 17		
7	S	QUINQUAGESIMA	7 32	4 57	6 52	5 7	●	1 22	1 49	10 51	11 16		
8	M	Shrove Sunday [Shrove Sunday]	7 31	4 59	7 22	6 33	1	2 13	2 38	11 38	—		
9	Tu	Shrove Tuesday	7 29	5 1	7 49	7 56	2	3 0	3 23	0 1	0 22		
10	W	Ash Wednesday	7 27	5 3	8 15	9 18	3	3 44	4 7	0 45	1 6		
11	Th	Twilight ends 7h. 1m.	7 25	5 5	8 40	10 36	4	4 28	4 49	1 27	1 47		
12	F	Custom House burnt, 1814	7 23	5 7	9 6	11 52	5	5 9	5 30	2 8	2 29		
13	S	Length of day 9h. 47m.	7 21	5 8	9 37	Morn.	6	5 51	6 11	2 49	3 11		
14	S	QUADRAG. 1ST SUND. IN LENT	7 20	5 10	10 12	1 3	7	6 33	6 58	3 36	4 1		
15	M	[Cambridge Lent Term div.]	7 18	5 12	10 53	2 8	8	7 23	7 51	4 29	5 1		
16	Tu	Day breaks 5h. 22m.	7 16	5 14	11 40	3 4	9	8 23	9 3	5 41	6 21		
17	W	Michael Angelo died, 1564	7 14	5 16	Aftern.	3 53	10	9 43	10 26	7 4	7 46		
18	Th	Luther died, 1546	7 12	5 17	1 29	4 34	11	11 8	11 47	8 25	9 1		
19	F	Cethin Colliery accident, 1861	7 10	5 19	2 30	5 8	12	—	0 23	9 29	9 51		
20	S	Hume died, 1855	7 8	5 21	3 35	5 37	13	0 51	1 13	10 13	10 32		
21	S	2ND SUND. IN LENT	7 6	5 23	4 38	6 2	14	1 35	1 54	10 49	11 6		
22	M	Washington born, 1732	7 4	5 25	5 42	6 24	15	2 11	2 28	11 22	11 36		
23	Tu	Cato-street conspiracy, 1820	7 2	5 27	6 46	6 44	16	2 44	2 58	11 52	—		
24	W	St. Matthias	7 0	5 28	7 52	7 4	17	3 14	3 29	0 7	0 22		
25	Th	Day breaks 5h. 8m.	6 58	5 30	8 59	7 25	18	3 44	3 58	0 36	0 50		
26	F	The Birkenhead lost, 1853	6 55	5 32	10 7	7 47	19	4 12	4 28	1 6	1 21		
27	S	Twilight ends 7h. 28m.	6 53	5 34	11 14	8 11	20	4 43	4 59	1 37	1 53		
28	S	3RD SUND. IN LENT	6 51	5 35	Morn.	8 41	21	5 15	5 32	2 10	2 28		
29	M	Corn Laws repealed, 1849	6 49	5 37	0 21	9 16	22	5 50	6 9	2 47	3 8		







"CHILDREN OVERTAKEN BY A STORM," BY E. FRERE.—FROM "THE ILLUSTRATED LONDON NEWS."



## FRESH-WATER FISHES IN THEIR SEASON.

JANUARY AND FEBRUARY.

If we except the salmon, the fresh-water fishes of the British Isles have at present no commercial value, as they are not captured, either individually or in the aggregate, for the purposes of commerce; but to persons who are fond of angling they afford sport and healthful recreation, whether they are pursued in the large English or Scottish lakes or caught in the small rivulets that feed our great salmon-streams. Although Britain is possessed of a seaboard of 4000 miles and a large number of fine rivers and lakes, the total number of British fishes is comparatively small (about 250 only), and the varieties which live in the fresh water are therefore very limited: those that afford sport may be numbered with ease on our ten fingers. Fishers who live in the neighbourhood of large cities are obliged, in consequence, to content themselves with the realisation of that old proverb which tells them that small fish are better than no fish at all; hence we have a race of anglers who are contented to sit all day in a punt on the Thames, happy, when evening arrives, to find their patience rewarded with a fisher's dozen of stupid gudgeon. But away down in the north, on the lakes of Cumberland or on the Highland lochs of Scotland, such tame sport would be laughed at, for there are heavy charr in the Derwent and splendid trout in Lochawe; and these require to be pursued with a zeal, and involve an amount of hard labour, not understood by anglers who punt for gudgeon or who haunt the East India Docks for perch. To kill a 16lb. salmon on a Welsh or Highland stream is to be named a knight among anglers; indeed, there are men who never lift a rod except to kill a salmon; such, however, like the Duke of Roxburgh, are the giants of the profession. We must, however, divide our attention, for it is quite as interesting (not to speak of the convenience of the thing) for some men to spend a day on the Thames killing barbel or roach as it is to others to kill a 10lb. salmon on the Tweed or the Spey. It is good sport, as well, to troll for pike in the Lodon or to capture grayling in beautiful Dove Dale. In fact, angling is a recreation that can be made to suit all classes, from the little boy with his bit of stick and crooked pin to the gentleman with his well-mounted rod and elaborate tackle, who hies away in his yacht to the fords of Norway in search of salmon that weigh half a century of pounds and require a day to capture. For those, however, who desire to stay at home there is abundant angling all the year round. From New-Year's Day to Christmas there need be no stoppage to the sport; even the weather ought never to stop an enthusiastic angler; but on very bad days there is the study of the fishes, and their natural and economic history, which ought to be interesting to all who use the angle, and to the majority of mankind besides; and there is spread out around the angler the interesting book of nature inviting him to perusal. He can see the white seal of winter opened, and observe the balmy spring put forth her vernal power; note the turbid streams of winter slacken their volume of water; see the swelling buds and the bursting leaves; admire the cowslip and the primrose grow into blossom almost as he looks at them; hear the sweet notes of the cuckoo and the unceasing carol of more joyous birds; watch the sporting lamb or the timid hare, and chronicle the ever changing seasons on their march of progress.

Before proceeding to describe the fresh-water fishes which are figured in the following illustrations we shall, first of all, say a few words concerning the structure and the natural and economic history of fishes. In doing this it is not necessary that our essay should be exceedingly formal or severely scientific; those requiring more profound or more detailed information can readily find it in the pages of some of the large encyclopedias. Fishes form the fourth class of vertebrate animals, and consist of animals which, as a general rule, only live in the water; although in Ceylon and India there are said to be fishes that live in the earth, or at any rate in the mud, not to speak of some that inhabit trees. The classification of fishes as arranged by Cuvier is that usually adopted. That eminent naturalist has divided them into those with true bones (osseous) and those of a cartilaginous structure; and the former again are divided into acanthopterous and malcopterous fishes. Other naturalists adopt different and more elaborate classifications; but Cuvier's, being simple, is the one generally used. A fish must breathe by means of its gills, and it progresses chiefly by means of its tail. It is admirably adapted for progression through the water, as may be seen from its form, which has been imitated more or less closely by the builders of ships and the makers of weavers' shuttles. If the breathing apparatus of a fish were to become dry, it would at once be suffocated. A fish when in the water has very little weight to support, as its specific gravity is about the same as the water in which it lives. The bodies of these animals are so flexible as to aid them in all their movements, and the various fins assist either in the balancing of the body or in aiding it to progress. The motion of a fish is excessively rapid; it can dash about in the water with lightning-like velocity. Many of our sea fishes are curiously shaped, such as the hammer-headed shark, the globe-fish, the monk-fish, the angel-fish, &c.; but all of them are becomingly adapted to their mode of life and the place where they live; as, for instance, in a cave where light has never penetrated there have been found fish with no eyes. Fresh-water fishes do not, however, vary much in shape, most of them being very elegant. Fishes are nearly insensible to pain, and are cold-blooded, their blood being only two degrees warmer than the element in which they swim. So far as personal knowledge goes, we believe the senses of sight and hearing are well developed in fishes, as also their sense of smell and taste, but particularly their sense of smell, which chiefly guides them to their food. It has been said by some naturalists that fishes do not hear well; but that is contrary to our own experience, for on making trial we always found them as quick of hearing as they were sharp of seeing; and do we not read of pet fish being summoned to their food by means of a bell? Most kinds of fish are voracious feeders, and prey upon each other without the slightest ceremony; and, in our opinion, the greatest difficulties of the angler are experienced after the fishes have had a good feed, when even the most cunning artist will not induce them to nibble, far less to bite. Some of our fishes have a digestive power so rapid as only to be comparable to the action of fire, and in good feeding grounds the growth of the fish quite corresponds to its power of eating. In the sea there is a better field for observing the cannibal propensities of the fish world, where shoals of one species have apparently no other life than to chase another kind with a view to eat them; and what goes on in the sea on a wholesale scale is imitated in the river. To compensate for the waste of life incidental to their birth and growth, nature has lavishly endowed this class of animals with enormous powers of reproduction. They yield their eggs by tens of thousands or millions, according to the danger to be incurred in the progress of their growth.

In our illustration we have shown a fit dwelling-place for a couple of ravenous pike; the eltraps are indicative of an excellent commissariat, and the fine bit of deep water, with its protecting fringe of vegetation, is just the place for a freshwater cannibal like the pike to take up his abode. This

"pirate of the waters," as the pike has come to be named, affords capital sport to the angler, as it is a fighting fish, and grows to a large size. Pike spawn in March and April, when the fish leaves its hiding-place in the deep water and retires into shallow creeks or ditches. The young fish are not long in being hatched, and they grow rapidly from the first, attaining a size of about 10 in. in twelve months, and they continue to grow so rapidly that by the time they are four years old they will have attained a length of 22 in. Before that period a young pike is called a jack, and its increase of weight is at the rate of about four pounds a year, when well supplied with food. The appetite of this fish is not easily satisfied, and numerous extraordinary stories of its powers of eating and digesting have been from time to time related. Mr. Jesse, in one of his works, says that a pike of the weight of five pounds has been known to eat a hundred gudgeon in three weeks; and we ourselves have seen them killed in the neighbourhood of a shoal of parr, and, notwithstanding their rapidity of digestion, have seen four or five fish taken out of the stomach of each. Mr. Stoddart, one of our chief authorities on angling matters, has calculated the pike to be among the most deadly enemies of the infant salmon. He tells us that the pike of the Teviot, a tributary of the Tweed, are very fond of the young smolts, and calculates that in a stretch of water ten miles long, where there is good feeding, there will be at least a thousand pike, and that these, during a period of sixty days, will consume about a quarter of a million of young salmon! There are many stories told about the voracity of this fish, so many, indeed, as almost to lead one to suppose that the larger part of them had been invented. But if half of them be true, the pike has certainly earned its title of the shark of the fresh waters. There is, for instance, the well-known tale of the poor mule, which a pike was seen to take by the nose and pull into the water; but it is more likely, we think, that the mule pulled out the pike. Pennant, however, relates a story of a pike that is known to be true. On the Duke of Sutherland's canal at Trentham a pike seized the head of a swan as she was feeding under water, and gorged so much of it as killed both. The servant, perceiving the swan with its head under water for a longer time than usual, took the boat and found both swan and pike dead. A large pike, if it has the chance, will think nothing of biting its captor; there are several authentic instances of this having been done. The pike is a long-lived fish, grows to a large size, and attains a prodigious weight. There is a narrative extant about one that was said to be two centuries and a half old, which weighed three hundred and fifty pounds, and was seventeen feet long! There is plenty of evidence as to the size of pike; individuals have been captured in Scotland that weighed seventy-nine pounds. In the London newspapers of 1765 an account is given of the draining of a pool twenty-seven feet deep, at the Lillishall Limeworks, near Newport, and which had not been fished for many years, and from which a gigantic pike was taken that weighed one hundred and seventy pounds! We have seen scores of pike which were upwards of seven pounds in weight, and a good few that were double that weight; but, like the salmon, the weight is now on the descending ratio, the giants of the tribe having apparently all been caught. Formerly there used to be great hauls of this fish taken out of the water. Whether the pike be good for food or not depends on where it has been fed, and how it is cooked. In fact, the animals of the water are not in some respects unlike those of the land; their flavour depends on their feeding; and pike that have been feeding daintily for a few months on young salmon cannot be very bad fare. As a general rule, however, the pike is not highly esteemed as a dish even when cooked à la Isaac Walton, who recommends them to be roasted and basted during the process with claret, anchovies, and butter. Old Isaac says the dish is too good for any but anglers or very honest men. The pike is a comparatively ugly-shaped fish; but at certain seasons is very brilliant in colour. It has been extensively distributed, and is found over the greater part of Europe, and also in America and Asia.

We come now to the perch, a well-known because common fish, about which a great deal has been written, and which is easily taken by the angler. There are a great number of species of this fish, from the common perch of our own canals and lochs to the "lates" of the Nile, or the beautiful golden-tailed mesoprius, which swims in the seas of Japan and India and flashes out brilliant rays of colour. The perch was assiduously cultivated in ancient Italy, in the days when pisciculture was an adjunct of gastronomy, and was thought to equal the mullet in flavour. In Britain, the fish, left to its natural growth and no care being taken to flavour it artificially, is surpassed for table purposes by the salmon and the trout; but perch being plentiful, afford plenty of good fishing. The perch usually congregate in small shoals, and delight in streams, or water with a clear bottom and with overhanging foliage to shelter them from the overpowering heats of summer. These fish do not attain any considerable weight, the one recorded as being taken in the Serpentine, in Hyde Park, which weighed nine pounds, being still the largest on record. Perch of three and four pounds are by no means rare, and those of one pound or so are quite common. The perch is a stupid kind of fish, and easily captured. Many of the foreign varieties of perch attain an immense weight. Some of the ancient writers tell us that the "lates" of the Nile attained a weight of three hundred pounds; and then there is the vacti of the Ganges, which is often caught five feet long. The perch, after it is three years old, spawns about May. It may be described as rather a hardy fish, as we know it will live a long time out of water, and can be kept alive among wet moss, so that it may be easily transferred from pond to pond. Its being so hardy accounts for its being found in so many northern lochs and rivers, as in the olden times of slow conveyances it must have taken a long time to convey the fish to the great distances we know it must have been carried to. On the Continent, living perch are a feature of nearly all the fish markets. The fish, packed in moss and occasionally sprinkled with water, are carried from the country to the cities, and, if not sold, are taken home and replaced in the ponds. This particular fish, which is very prolific, might be "cultivated" to any extent. We do not see why a fishpond should not be as much a portion of a country gentleman's commissariat as his kitchen garden or his cow-paddock. A sizable pond can be erected at a comparatively trifling cost, and if properly stocked would yield fish all the year round. Perch are useful in more ways than are generally known. The Laplanders make glue and also jelly out of their skins. Exquisite dishes for fastidious gourmets can be concocted from their milts, and choice ornaments can be formed out of their scales. The sea perch, as it is called (the basse), may be mentioned here. Some varieties of it are very plentiful on the coast of America, where they grow to a large size, and are much esteemed for their flavour. Another variety of the perch is the common pike-perch, which might, we think, be acclimatised in our seas, where it is at present unknown, with advantage. It is common in the Danube and the Elbe, as also in the Caspian and Black Seas. It is a fish that grows rapidly and attains a considerable weight, and its flesh is most agreeable. It is surprising that no pains are taken to acclimatise new varieties of fish in Britain, although we know it could be easily accomplished. There is, for instance, the black basse of the Huron, which might be advantageously introduced; and there are many other fishes, both of the salt and fresh water, which would flourish in this country and add to our commissariat.



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

## THE CALENDAR.

### PRINCIPAL ARTICLES OF THE CALENDAR FOR THE YEAR OF OUR LORD 1864.

	Gregorian, or New Calendar.	Julian, or Old Calendar.
Golden Number .. .. .	3	3
Epoct .. .. .	XXII	III
Solar Cycle .. .. .	25	25
Roman Indiction .. .. .	7	7
Dominical Letter .. .. .	CB	ED
Septuagesima .. .. .	Jan. 24	Feb. 16
Ash Wednesday .. .. .	Feb. 10	March 4
Easter Sunday .. .. .	March 27	April 19
Ascension Day .. .. .	May 5	May 28
Pentecost—Whit Sunday .. .. .	May 15	June 7
1st Sunday in Advent .. .. .	Nov. 27	Nov. 29

The year 1864 is the latter part of the 5624th and the beginning of the 5625th year since the creation of the world, according to the Jews. The year 5625 commences on Oct. 1, 1864.

The year 1864 answers to the 6577th year of the Julian Period, to the 2617th from the foundation of Rome, to the 2640th year of the Olympiads, and to the year 7372-3 of the Byzantine Era.

The year 1281 of the Mohammedan Era commences on June 6, 1864, and Ramadan (month of abstinence observed by the Turks) commences on Feb. 9, 1864.

## CALENDAR OF THE JEWS FOR THE YEAR 1864.

5624.	1863.	NEW MOONS AND FEASTS.
Tebeth 1	December 11	
" 10	" 20	Fast: Siege of Jerusalem
Schebat 1	January 9	
Adar 1	February 8	
" 14	" 21	Lesser Purim
W'adar 1	March 9	
" 13	" 21	Fast of Esther
" 14	" 22	Purim
" 15	" 23	Schuschan Purim
Nisan 1	April 7	
" 15	" 21	Passover commences*
" 16	" 22	Second Feast*
" 21	" 27	Seventh Feast*
" 22	" 28	Eighth Feast*
Ijar 1	May 7	
" 18	" 24	Lag B'omer
Sivan 1	June 5	
" 6	" 10	Feast of Weeks*
" 7	" 11	Second Feast*
Thamuz 1	July 5	
" 17	" 21	Fast: Seizure of the Temple
Ab 1	August 3	
" 9	" 11	Fast: Destruction of the Temple*
Elul 1	September 2	
5625.		
Tischni 1	October 1	New Year's Feast*
" 2	" 2	Second Feast*
" 3	" 3	Fast: Death of Gedaliah
" 10	" 10	Fast: Day of Atonement*
" 15	" 15	Feast of the Tabernacles*
" 16	" 16	Second Feast*
" 21	" 21	Feast of Branches
" 22	" 22	End of Feast of Tabernacles*
" 23	" 23	Feast of the Law*
Marsches. 1	" 31	
Kislev 1	November 30	
" 25	December 24	Feast of the Dedication of the Temple
Tebeth 1	" 30	
" 10	1865.	
" 10	January 8	Fast: Siege of Jerusalem

Those marked with an asterisk are strictly observed.

## BEGINNING OF THE SEASONS, 1864.

	D.	H.	M.
Sun enters Capricornus and Winter begins, 1863, Dec. 22	7	6	a.m.
" " Aries " Spring " 1864, March 20	8	10	a.m.
" " Cancer " Summer " " June 21	4	52	a.m.
" " Libra " Autumn " " Sept. 22	7	16	p.m.
" " Capricornus " Winter " " Dec. 21	1	3	p.m.

The Sun will consequently be in the Winter signs .. 89 1 4  
 " " " " Spring " .. 92 20 42  
 " " " " Summer " .. 93 14 24  
 " " " " Autumn " .. 89 17 47

The Summer Quarter is therefore 4 days 13 hours and 20 minutes longer than the Winter; 3 days 20 hours and 37 minutes longer than that of Autumn; and 17 hours and 42 minutes longer than that of Spring.

The Sun will be on the Equator and going North ..	March 20	8 10 a.m., his declin. being 0 0 0
The Sun will reach his greatest North declination ..	June 21	4 52 a.m. " " 23 27 18
The Sun will be on the Equator and going South ..	Sept. 22	7 16 p.m. " " 0 0 0
The Sun will reach his greatest South declination ..	Dec. 21	1 3 p.m. " " 23 27 17

The Sun will be North of the Equator (comprising the periods of Spring and Summer) 186 days 11 hours 6 minutes.

The Sun will be South of the Equator (comprising the periods of Autumn and Winter) 178 days 18 hours 51 minutes.

## MOHAMMEDAN CALENDAR FOR THE YEAR 1864.

Year.	Name of the Months.	Month begins.
1280.	Redschab I. .. .. .	December 12, 1863.
"	Schabân I. .. .. .	January 11, 1864.
"	Ramadan I. .. .. .	February 9 " "
"	Schewwâl I. .. .. .	March 10 " "
"	Dsu'l-kade I. .. .. .	April 8 " "
"	Dsu'l-hedsche I. .. .. .	May 8 " "
1281.	Moharrem I. .. .. .	June 6 " "
"	Safar I. .. .. .	July 6 " "
"	Rebi el-awwel I. .. .. .	August 4 " "
"	Rebi el-accher I. .. .. .	September 3 " "
"	Dschemâdi el-awwel I. .. .. .	October 2 " "
"	Dschemâdi el-accher I. .. .. .	November 1 " "
"	Redschab I. .. .. .	" 30 " "
"	Schabân I. .. .. .	December 30 " "
"	Ramadan .. .. .	January 28, 1865.

## LAW TERMS, 1864.

As settled by Statutes 11 Geo. IV., and 1 Will. IV., cap. 70, s. 6 (passed July 23, 1830); and 1 Will. IV., cap. 3, s. 2 (passed Dec. 23, 1830).

Hilary Term .. .. .	begins January 11	and ends February 1
Easter Term .. .. .	April 15	" May 9
Trinity Term .. .. .	May 22	" June 13
Michaelmas Term .. .. .	November 2	" November 25

## UNIVERSITY TERMS, 1864.

### OXFORD.

TERM.	BEGINS.	ENDS.
Lent .. .. .	January 14	March 19
Easter .. .. .	April 6	May 14
Trinity .. .. .	May 18	July 9
Michaelmas .. .. .	October 10	December 17

The Act, July 5.

### CAMBRIDGE.

TERM.	BEGINS.	DIVIDES.	ENDS.
Lent .. .. .	January 13	Feb. 14, Midnight	March 18
Easter .. .. .	April 1	May 13, Noon.	June 24
Michaelmas .. .. .	October 1	Nov. 8, " "	Dec. 16

The Commencement, June 21.

## ASTRONOMICAL SYMBOLS AND ABBREVIATIONS.

☉ The Sun	♄ Jupiter	♄ Erato
☾ New Moon	♅ Saturn	♅ Ausonia
☾ First Quarter of Moon	♆ Uranus	♆ Angelina
☾ Full Moon	♇ Neptune	♇ Maximiliana
☾ Last Quarter of Moon	♈ Aries	♈ Maia
☿ Mercury	♉ Taurus	♉ Asia
♁ Venus	♊ Gemini	♊ Leto
♂ or ♀ The Earth	♋ Cancer	♋ Hesperia
♂ Mars	♌ Leo	♌ Panopea
♁ Ceres	♍ Virgo	♍ Niobe
♁ Pallas	♎ Libra	♎ Feronia
♁ Juno	♏ Scorpio	♏ Clytie
♁ Vesta	♐ Sagittarius	♐ Galatea
♁ Astrea	♑ Capricornus	♑ —
♁ Hebe	♒ Aquarius	♒ Freia
♁ Iris	♓ Pisces	♓ —
♁ Flora	♈ Aries	♈ Diana
♁ Metis	♉ Taurus	♉ Jupiter
10 Hygeia	♊ Gemini	♊ Saturn
11 Parthenope	♋ Cancer	♋ Uranus
12 Victoria	♌ Leo	♌ Neptune
13 Egeria	♍ Virgo	♍ Degrees
14 Irene	♎ Libra	♎ Minutes of Arc
15 Eunomia	♏ Scorpio	♏ Seconds of Arc
16 Psyche	♐ Sagittarius	D Days
17 Thetis	♑ Capricornus	H Hours
18 Melpomene	♒ Aquarius	M Minutes of Time
19 Fortuna	♓ Pisces	S Seconds of Time
20 Massilia	♈ Aries	☉ Sunday
21 Lutetia	♉ Taurus	☾ Monday
22 Calliope	♊ Gemini	☾ Tuesday
23 Thalia	♋ Cancer	☾ Wednesday
24 Themis	♌ Leo	☾ Thursday
25 Phoebe	♍ Virgo	☾ Friday
26 Proserpine	♎ Libra	☾ Saturday
61 Echo		

The Symbol ☿ Conjunction, or having the same Longitude or Right Ascension.  
 ☐ Quadrature, or differing 90° in Longitude or Right Ascension.  
 ☿ Opposition, or differing 180° in Longitude or Right Ascension.

## FIXED AND MOVABLE FESTIVALS, ANNIVERSARIES, &c.

Epiphany .. .. .	Jan. 6	Pentecost—Whit Sunday ..	May 15
Septuagesima Sunday .. .. .	" 24	Trinity Sunday .. .. .	" 22
Quinquagesima—Shrove Sund. ..	Feb. 7	Birth of Queen Victoria ..	" 24
Ash Wednesday .. .. .	" 10	Corpus Christi .. .. .	" 26
Quadragesima—1st Sunday ..	" 14	Accession of Queen Victoria ..	June 20
" in Lent .. .. .	" 17	Proclamation .. .. .	" 21
St. David .. .. .	March 1	St. John Baptist—Midsum- ..	" 24
St. Patrick .. .. .	" 17	mer Day .. .. .	" 24
Palm Sunday .. .. .	" 20	St. Michael—Michaelmas ..	Sept. 29
Annunciation—Lady Day ..	" 25	Day .. .. .	" 29
Good Friday .. .. .	" 25	Birth of Prince of Wales ..	Nov. 9
EASTER SUNDAY .. .. .	" 27	1st Sunday in Advent .. ..	" 27
1st Sunday .. .. .	April 3	St. Andrew .. .. .	" 30
St. George .. .. .	" 23	St. Thomas .. .. .	Dec. 21
Ascension Sunday .. .. .	May 1	CHRISTMAS DAY .. .. .	" 25
Ascension Day—Holy Thursd. ..	" 5		



# MARCH.



AS MAD AS MARCH HARES.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT			
			Rises.	Sets.	Age.	Rises.	Sets.	Age.	London.	Bridge.	Liverpool.	Dock.
1	Tu	<i>St. David</i>	6 47	5 39	1 28	10 0	0	0	6 30	6 54	3 32	3 58
2	W	<i>St. Chad</i>	6 45	5 41	2 27	10 55	24	7 20	7 51	4 29	5 6	6
3	Th	Wesley died, 1791	6 43	5 43	3 21	Aftern.	25	8 28	9 13	5 51	6 39	7
4	F	Day breaks 4h. 48m.	6 40	5 44	4 5	1 15	26	10 1	10 46	7 24	8 8	8
5	S	Covent-garden Theatre burnt, 1856	6 38	5 46	4 45	2 34	27	11 30	—	8 45	9 16	9
6	S	4TH SUND. IN LENT	6 35	5 48	5 16	3 59	28	0 7	0 38	9 43	10 8	10
7	M	<i>Perpetua</i>	6 34	5 50	5 47	5 23	29	1 5	1 30	10 32	10 55	11
8	Tu	Morrinac and Monitor contest, 1862	6 31	5 51	6 13	6 46	●	1 54	2 17	11 17	11 38	12
9	W	William III. died, 1702	6 29	5 53	6 40	8 7	1	2 39	3 0	—	0 0	0
10	Th	Prince of Wales married, 1863	6 27	5 55	7 7	9 27	2	3 22	3 44	0 22	0 43	1
11	F	Twilight ends 7h 51m.	6 25	5 56	7 36	10 42	3	4 5	4 25	1 3	1 23	2
12	S	<i>St. Gregory</i>	6 23	5 58	8 10	11 50	4	4 45	5 4	1 42	2 3	3
13	S	5TH SUND. IN LENT	6 20	6 0	8 50	Morn.	5	5 25	5 44	2 22	2 45	4
14	M	Klopstock died, 1803	6 18	6 1	9 35	0 53	6	6 7	6 28	3 6	3 31	5
15	Tu	Mausoleum at Frogmore commenced, 1862	6 16	6 3	10 27	1 47	7	6 53	7 17	3 55	4 25	6
16	W	Duchess of Kent died, 1861	6 13	6 5	11 23	2 31	8	7 47	8 22	5 0	5 41	7
17	Th	<i>St. Patrick</i>	6 11	6 7	Aftern.	3 8	9	9 3	9 45	6 23	7 5	8
18	F	Cambridge Lent Term ends	6 9	6 8	1 26	3 39	10	10 27	11 9	7 47	8 24	9
19	S	Oxford Lent Term ends	6 7	6 10	2 29	4 5	11	11 46	—	8 56	9 20	10
20	S	PALM SUNDAY	6 4	6 12	3 32	4 27	12	0 18	0 42	9 41	10 1	11
21	M	Goethe died, 1832	6 2	6 13	4 36	4 49	13	1 3	1 23	10 19	10 36	12
22	Tu	Day breaks 4h. 5m.	6 0	6 15	5 42	5 10	14	1 41	1 58	10 51	11 6	1
23	W	National Gallery foun., 1824	5 58	6 17	6 49	5 32	○	2 13	2 28	11 21	11 37	2
24	Th	Queen Elizabeth died, 1603	5 55	6 18	7 56	5 52	16	2 43	2 59	11 51	—	3
25	F	GOOD FRIDAY. Lady Day.	5 53	6 20	9 5	6 16	17	3 13	3 31	0 9	0 23	4
26	S	Charles Albert abdic., 1849	5 51	6 22	10 13	6 45	18	3 45	4 1	0 39	0 56	5
27	S	EASTER SUNDAY	5 48	6 23	11 18	7 19	19	4 18	4 35	1 13	1 31	6
28	M	French Victories in Cochinchina, 1862	5 46	6 25	Morn.	8 0	20	4 53	5 10	1 48	2 8	7
29	Tu	Earthquake at Quito, 1859	5 44	6 27	0 20	8 51	21	5 30	5 49	2 27	2 51	8
30	W	Twilight ends 8h. 27m.	5 42	6 28	1 15	9 51	○	6 13	6 38	3 16	3 43	9
31	Th	Peace of Paris, 1856	5 40	6 30	2 2	11 1	23	7 5	7 38	4 16	4 53	10







"MUSIC," BY A. B. CLAY.—FROM "THE ILLUSTRATED LONDON NEWS."



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

## STAMP AND OTHER GOVERNMENT DUTIES.

### RECEIPTS.

For £2 and upwards .. One Penny.  
**N.B.** Persons receiving the money are to pay the duty.  
 Receipts may be stamped within fourteen days of date on payment of £5, or within one month on payment of £10, penalty: after that time they cannot be stamped.  
 Penalty for giving a receipt without a stamp .. £10  
 Penalty for not effectually cancelling or obliterating adhesive stamps when used .. £10  
 Penalty for frauds in the use of adhesive stamps .. £10

### AGREEMENTS (NOT UNDER SEAL).

Of the value of £5 or upwards .. 6d.  
 If the agreement contains 2160 words, or upwards, then for every quantity of 1080 words over the first 1080 a further progressive duty of .. 6d.  
**Exceptions.**—Letters containing any agreement in respect of merchandise, by post, between merchants or traders in Great Britain or Ireland, residing, and actually being, at the time, at the distance of fifty miles from each other; agreements relating to sale of goods; to hire of labourers, servants, and seamen; and to rack-rent leases under £5 per annum.  
 Agreements may be stamped within fourteen days after date without penalty, and at any time after fourteen days on payment of £10 penalty.

### LEASES AND CONVEYANCES.

Lease or Tack of any lands, tenements, hereditaments, or heritable subjects, at a yearly rent, for less than thirty-five years, or less than a year, without any sum of money by way of fine, premium, or grassum paid for the same:—  
 Yearly rent not exceeding £5 .. 0 6  
 Exceed £5 and not exc. £10 .. 1 0  
 " 10 " 15 .. 1 6  
 " 15 " 20 .. 2 0  
 " 20 " 25 .. 2 6  
 Exceed £25 and not exc. £50 .. 5 0  
 " 50 " 75 .. 7 6  
 " 75 " 100 .. 10 0  
 " 100, then for every £50, or any fractional part of £50 .. 5 0  
 Lease or Tack of any lands, tenements, hereditaments, or heritable subjects, for any term of years exceeding thirty-five, at a yearly rent, with or without any sum of money by way of fine, premium, or grassum.

	Term not exceeding 100 Years.	Term exceeding 100 Years.
Where yearly rent not exceeding £5 ..	0 3 0	0 6 0
And where exceeding £5 and not exceeding £10 ..	0 6 0	0 12 0
" 10 " 15 ..	0 9 0	0 18 0
" 15 " 20 ..	0 12 0	1 4 0
" 20 " 25 ..	0 15 0	1 10 0
" 25 " 30 ..	1 0 0	3 0 0
" 30 " 35 ..	1 10 0	4 10 0
" 35 " 40 ..	2 5 0	4 10 0
" 40 " 45 ..	3 0 0	6 0 0
" 45 " 50 ..	3 0 0	6 0 0
Same exceeding £100, then for every £50, and also for any fractional part of £50 ..	1 10 0	3 0 0

And where any such Lease or Tack as aforesaid shall be granted in consideration of a fine, premium, or grassum, and also of a yearly rent, such Lease or Tack shall be chargeable also, in respect of such fine, premium, or grassum, with the *ad valorem* stamp or conveyances, pursuant to the 13th and 14th Vict., c. 97; see below.

Duplicate or Counterpart are chargeable with Progressive Duty, as under the 13th and 14th Vict., c. 97.

**LICENCE TO DEMISE COPYHOLD LANDS, TENEMENTS, OR HEREDITAMENTS, OR THE MEMORANDUM THEREOF, IF GRANTED OUT OF COURT, AND THE COPY OF COURT ROLL OF ANY SUCH LICENCE, IF GRANTED IN COURT:—**

Where the clear yearly value of the estate to be demised shall be expressed in such licence, and shall be pressed in such licence, and shall value, under the Act of the 13th and not exceed £75 .. 14th Vict., c. 97.  
 And in all other cases, 10s.

CONVEYANCE (pursuant to 13th and 14th Vict., c. 97):—

Purchase or consideration money expressed:	Exc. £200 and not exc. £225	£ s. d.
Not exceeding £25 ..	25	1 2 6
Exc. £25 and not exc. £50 ..	25	1 5 0
" 50 " 75 ..	25	1 7 6
" 75 " 100 ..	25	1 10 0
" 100 " 125 ..	25	1 15 0
" 125 " 150 ..	25	2 0 0
" 150 " 175 ..	25	2 5 0
" 175 " 200 ..	25	3 0 0

### LETTER OR POWER OF ATTORNEY.

Letter or Power of Attorney, or commission or factory in the nature thereof .. £1 10 0  
 And where the same, together with any schedule or other matter put or indorsed thereon, or annexed thereto, shall contain 2160 words or upwards, then for every entire quantity of 1080 words contained therein, over and above the first 1080 words, a further progressive duty of 20s. under 55th George III., but under Act of 1850 .. 0 10 0  
 Power for payment of an annual sum not exceeding £10, or a sum not exceeding £20 .. 0 5 0

### ADMISSIONS.

To act in any Court as Advocate .. £50  
 To the degree of a Barrister-at-law in England or Ireland .. 50  
 As Attorney, Solicitor, or Proctor in England or Ireland .. 25  
 To act as Notary Public in England .. 30  
 To be Fellow of College of Physicians .. 25  
 To a Corporation in respect of privilege .. 1  
 To ditto any other ground .. 3  
 To any Ecclesiastical Benefice in England or Ireland .. 7

## BILLS OF EXCHANGE, PROMISSORY NOTES, &c.

INLAND BILL OF EXCHANGE, DRAFT, or Order for Payment to the Bearer, or to Order, at any time otherwise than on Demand, of any sum of money:—

	£ s. d.
Not exceeding £5 ..	0 0 1
Exc. £5 and not exc. £10 ..	0 0 2
" 10 " 25 ..	0 0 3
" 25 " 50 ..	0 0 6
" 50 " 100 ..	0 0 9
" 100 " 200 ..	0 2 0
" 200 " 300 ..	0 3 0
" 300 " 400 ..	0 4 0
" 400 " 500 ..	0 5 0
" 500 " 750 ..	0 7 6
" 750 " 1000 ..	0 10 0
" 1000 " 1500 ..	0 15 0
" 1500 " 2000 ..	1 0 0
" 2000 " 3000 ..	1 10 0
" 3000 " 4000 ..	2 0 0
£4000 and upwards, <i>ad valorem</i> duty of 10s. per £1000.	

FOREIGN BILL OF EXCHANGE drawn in, but payable out of, the United Kingdom—if drawn singly, or otherwise than in a set of three or more—the same duty as on an Inland Bill of the same amount and tenor. If drawn in sets of three or more, for every bill of each set where the sum payable thereby shall ..

	£ s. d.
Not exceed £25 ..	0 0 1
Above £25 and not exc. £50 ..	0 0 2
" 50 " 75 ..	0 0 3
" 75 " 100 ..	0 0 4
" 100 " 200 ..	0 0 8
" 200 " 300 ..	0 1 0
" 300 " 400 ..	0 1 4
" 400 " 500 ..	0 1 8
" 500 " 750 ..	0 2 6
" 750 " 1000 ..	0 3 4
" 1000 " 1500 ..	0 5 0
" 1500 " 2000 ..	0 6 8
" 2000 " 3000 ..	0 10 0
" 3000 " 4000 ..	0 13 4
" 4000 " 5000 ..	0 16 8

Exceeding £4000, for every £1000 or fraction .. 3 4

Foreign Bill of Exchange drawn out of, and payable within, the United Kingdom, not exceeding £500, same as inland Bill.

Ditto, exceeding £500, 1s. per £100.

Foreign Bill of Exchange drawn out of, and payable out of, the United Kingdom, but indorsed or negotiated within the United Kingdom, same duty as on Foreign Bill drawn within the United Kingdom and payable out of the United Kingdom.

Duty on Foreign Bills drawn out of the United Kingdom to be denoted by adhesive stamps.

Promissory Note for the Payment in any other manner than to the Bearer on Demand of any sum of money:—

	£ s. d.
Not exceeding £5 ..	0 0 1
Above £5 and not exc. £10 ..	0 0 2
" 10 " 25 ..	0 0 3
" 25 " 50 ..	0 0 6
" 50 " 75 ..	0 0 9
" 75 " 100 ..	0 2 0

Promissory Note for the payment, either to the Bearer on Demand, or in any other manner than to the Bearer on Demand, of any sum of money:—

	£ s. d.
Exc. £100 and not exc. £200 ..	0 2 0
" 200 " 300 ..	0 3 0
" 300 " 400 ..	0 4 0
" 400 " 500 ..	0 5 0
" 500 " 750 ..	0 7 0
" 750 " 1000 ..	0 10 0
" 1000 " 1500 ..	0 15 0
" 1500 " 2000 ..	1 0 0
" 2000 " 3000 ..	1 10 0
" 3000 " 4000 ..	2 0 0
£4000 and upwards, 10s. per £1000.	

## APPRENTICES' INDENTURES, AND ASSIGNMENTS OF THEM.

	£ s. d.
Where no money is paid ..	0 2 6
Under £30 ..	1 0 0
For £30 and under £50 ..	2 0 0
" 50 " 100 ..	3 0 0
" 100 " 200 ..	6 0 0
" 200 " 300 ..	12 0 0
" 300 " 400 ..	20 0 0
" 400 " 500 ..	25 0 0
" 500 " 600 ..	30 0 0
" 600 " 800 ..	40 0 0
" 800 " 1000 ..	50 0 0
" 1000 and upwards ..	60 0 0

Contracts to serve as Artificers, Servants, Clerks, Mechanics, or Labourers, in the British Colonies are exempted from stamp duty.

### PROTESTS.

On any bill or note where the stamp duty on same does not exceed 1s., the same duty as on the bill or note.  
 On any other bill or note .. 1s. 6d.  
 Of any other kind .. 1 0

Bill of lading .. 0 6

(Cannot be stamped after execution.)

Charterparty .. 5 0

(Charterparty may be stamped within fourteen days after execution free of penalty; within one month, £10 penalty; after one month, cannot be stamped.)

## CHEQUES, DRAFTS, OR ORDERS ON DEMAND.

All Drafts, Warrants, or Orders for the payment of money are chargeable with a stamp duty of one penny, by using an adhesive receipt stamp, which must be cancelled by the person drawing the cheque, draft, or order, by writing his name on the stamp.

## BONDS AND MORTGAGES.

	Exc. £150 and not exc. £200	£ s. d.
Not exceeding £50 ..	150	5s. 0d.
Exc. £50 and not exc. 100 ..	150	5 6
" 100 " 150 ..	150	6 3
" 150 " 200 ..	150	7 6

And where the same shall exceed £300, then for every £100, and also for any fractional part of £100, s. 6d.

And where any such bond or mortgage shall contain 2160 words or upwards, then for every entire quantity of 1080 words contained therein over and above the first 1080 words there shall be charged the further progressive duty following—viz., where such bond or mortgage shall be chargeable with any *ad valorem* stamp duty, not exceeding 10s., a further progressive duty equal to the amount of such *ad valorem* duty or duties. And in every other case a further progressive duty of 10s. See, as to Inland Revenue Bonds, the 13th and 19th Vict., c. 78, s. 6.

## PATENTS FOR INVENTIONS—STAMP DUTIES ON.

	£ s. d.
On petition for grant of letters patent ..	5 0 0
On certificate of record of notice to proceed ..	5 0 0
On warrant of law officer for letters patent ..	5 0 0
On the sealing of letters patent ..	5 0 0
On specification ..	5 0 0
On the letters patent, or a duplicate thereof, before the expiration of the third year ..	50 0 0
On the letters patent, or a duplicate thereof, before the expiration of the seventh year ..	100 0 0
On certificate of record of notice of objections ..	2 0 0
On certificate of every search and inspection ..	0 1 0
On certificate of entry of assignment or licence ..	0 5 0
On certificate of assignment or licence ..	0 5 0
On application for disclaimer ..	5 0 0
On caveat against disclaimer ..	2 0 0
On office copies of documents, for every ninety words ..	0 0 2



STAMP AND OTHER GOVERNMENT DUTIES (*Continued.*)

## PROPERTY AND INCOME TAX.

From April, 1863, to April, 1864, all incomes of £100 per annum and not exceeding £200 are taxed at the rate of 7d. in the pound upon a proportion of the same; those of £200 and upwards, at 7d. in the pound.

*Exemption of Premiums from Income Tax.*—Under a recent Act of Parliament, the premiums paid by a person for an Assurance on his own life, or on the life of his wife, or for a Deferred Annuity to his widow, are declared free from income tax, provided such Premiums do not exceed one-sixth of his returnable income.

## DUTIES PAYABLE ON INHABITED HOUSE OF THE ANNUAL VALUE OF £20, OR UPWARDS.

The duty is 6d. in the pound in respect of dwelling-houses occupied by any person in trade who shall expose to sale and sell any goods in any shop or warehouse, being part of the same dwelling-house, and in front and on the ground or basement story thereof; or by a person licensed to sell therein, by retail, beer, &c.; or as a farm-house, by a tenant, or farm servant, and *bonâ fide* used for the purpose of husbandry only.—The duty is 9d. in the pound for dwelling-houses not occupied and used for any of the purposes described in the preceding.

*Exception.*—Market-gardens and nursery-grounds are not to be included in valuation of inhabited houses.

## DUTIES ON LEGACIES AND SUCCESSION TO REAL PROPERTY.

To children or their descendants, or lineal ancestors of the deceased, £1 0 0	
Brother or sister, or their descendants .. .. .	3 0 0
Uncle or aunt, or their descendants .. .. .	5 0 0
Grand uncle or aunt, or their descendants .. .. .	6 0 0
All other relations, or strangers .. .. .	10 0 0
The husband or wife of the deceased not chargeable with duty.	

## DUTIES ON MALE SERVANTS.

	Per Annum.
For servants aged 13 years and upwards .. .. .	£1 1 0
Ditto under the age of 13 years .. .. .	0 10 6
Ditto employed as under-gardeners .. .. .	0 10 6
Ditto employed as under-gamekeepers .. .. .	0 10 6
<i>Exceptions.</i> —Occasional waiters, portboys, helpers, or ostlers of licensed innkeepers.	

## ARMORIAL BEARINGS.

Persons chargeable with the duty of assessed taxes for any carriage at the rate of £3 10s. .. .. .	£2 12 9
Other persons .. .. .	0 13 2

## GAME LICENSES.

If License or Certificate be taken out after April 5, and before Nov. 1, to expire on April 5 in the following year .. .. .	£3 0 0
To expire on Oct. 31 in the same year in which the License or Certificate shall be taken out .. .. .	2 0 0
If License or Certificate be taken out on or after Nov. 1 to expire on April 5 following .. .. .	2 0 0
To deal in game .. .. .	2 0 0

## DOGS.

For every dog, of whatever description or denomination .. .. . 12s.  
Provided always, that no person shall be chargeable with duty to any greater amount than £39 12s. for any number of hounds, or £9 for any number of greyhounds, kept by him in any year.

*Exceptions.*—Any person in respect of any dog *bonâ fide* and wholly kept and used in the care of sheep or cattle, or in driving or removing the same; provided no such dog shall be a greyhound, hound, pointer, setting dog, spaniel, lurcher, or terrier.

## HORSES LET TO HIRE.

(Omnibuses and Cabs excepted.)

Where the person taking out the license shall keep at one and the same time to let for hire one horse or one carriage only .. .. .	£7 10 0
Where such person shall keep any greater number of horses or carriages, not exceeding two horses or two carriages .. .. .	12 10 0
Not exceeding four horses or three carriages .. .. .	20 0 0
Not exceeding eight horses or six carriages .. .. .	30 0 0
Exceeding twenty horses, then for every additional number of ten horses, and for any additional number less than ten over and above twenty, the further additional duty of .. .. .	10 0 0

## HORSE-DEALERS.

Horse-dealers residing within the Bills of Mortality .. .. .	£27 10
Ditto residing in the country .. .. .	13 15

## DUTIES ON HORSES AND MULES.

For every horse kept or used for racing .. .. .	£3 17 0
For every other horse, and for every mule, exceeding respectively the height of thirteen hands of four inches to each hand, kept for the purpose of riding, or drawing any carriage chargeable with duty .. .. .	1 1 0
For every horse and mule exceeding the height of thirteen hands, kept for any other purpose .. .. .	0 10 6
For every pony or mule not exceeding the height of thirteen hands, kept for the purpose of riding, or drawing any carriage chargeable with duty .. .. .	0 10 6
And for every pony or mule kept for any other purpose .. .. .	0 5 3

*Exceptions.*—Any horses or mules kept solely for the purposes of husbandry.

## DUTIES ON CARRIAGES.

For every carriage with four wheels, where drawn by two or more horses or mules .. .. .	£3 10 0
Where drawn by one horse or mule only .. .. .	2 0 0
For every carriage with four wheels, each being of less diameter than thirty inches, where drawn by two or more ponies or mules, neither of them exceeding thirteen hands in height .. .. .	1 15 0
Where drawn by one such pony or mule only .. .. .	1 0 0
For every carriage with less than four wheels, where drawn by two or more horses or mules .. .. .	2 0 0
Where drawn by one horse or mule only .. .. .	0 15 0
Where drawn by one pony or mule not exceeding 13 hands in height .. .. .	0 10 0
Carriages kept and used solely for the purpose of being let for hire, one half of the above-mentioned duties respectively.	
For any carriage with four wheels used by any common carrier .. .. .	2 6 8
And where the same shall have less than four wheels .. .. .	1 6 8
<i>Exceptions.</i> —Any waggon, van, cart, or other carriage, to be used solely in the course of trade or husbandry.	

## HACKNEY CARRIAGE FARES.—(CABS.)

**FARES BY DISTANCE.**—Carriages drawn by one horse—For any distance within and not exceeding one mile, 6d.; for any distance exceeding one mile, 1d. for every mile, and for every part of a mile over and above any number of miles completed within a circumference of four miles from Charing-cross, 1s. per mile for every mile or part of a mile beyond the four-mile circumference when discharged beyond that circumference.

**FARE BY TIME.**—2s. for any time not exceeding one hour; 6d. for every fifteen minutes over the hour.

For every hackney carriage drawn by two horses one-third above the rates and fares hereinbefore mentioned.

The fares to be paid according to distance or time, at the option of the hirer, to be expressed at the commencement of the hiring; if not otherwise expressed, the fare to be paid according to distance.

No driver shall be compellable to hire his carriage for a fare to be paid according to time between eight o'clock in the evening and six in the morning.

When more than two persons shall be carried inside any hackney carriage, 6d. is to be paid for each person above two for the whole hiring, in addition to the above fares. Two children under ten years of age to be counted as one adult person.

When more than two persons shall be carried inside any hackney carriage with more luggage than can be carried inside the carriage, a further sum of 2d. for every package carried outside the said carriage is to be paid by the hirer in addition to the above fares.

## LICENSES.

Appraisers .. .. .	£2 0
Attorneys, &c., London (or within ten miles), Edinburgh, and Dublin .. .. .	0 0
Ditto elsewhere .. .. .	6 0
(Half only for the first three years of being in practice.)	
Auctioneers .. .. .	10 0
Bankers .. .. .	30 0
Conveyancers, London and Dublin .. .. .	9 0
elsewhere .. .. .	6 0
Hawkers and pedlars, for each horse, &c., used .. .. .	4 0
on foot .. .. .	2 0
(These may be obtained for half a year, expiring Jan. 31 or July 31, at half the rate.)	
House-agents .. .. .	2 0
To sell playing-cards, for makers .. .. .	1 6
persons not makers .. .. .	2s. 6d.
Medicine-vendors, London .. .. .	£2 0
in any corporate town .. .. .	0 10
elsewhere .. .. .	0 5
Pawnbrokers, London .. .. .	15 0
elsewhere .. .. .	7 10
Plate-dealers, selling above 2oz. of gold and 30oz. of silver plate .. .. .	5 15
under the above weight .. .. .	2 6
For marriages, special .. .. .	5 0
not special .. .. .	0 10
To hold a perpetual curacy .. .. .	6 10
For non-residence .. .. .	1 10
To stage and hackney carriage drivers, conductors, and watermen .. .. .	0 5

## LIFE AND FIRE INSURANCES.

Policy of Insurance made upon any life where the sum insured .. .. .	£ s. d.
shall not exceed £25 .. .. .	0 0 3
Exceeding £25 and not exceeding £500, then for every £50, and any fractional part of £50 .. .. .	0 0 6
Exceeding £500 and not exceeding £1000, then for every £100, and any fractional part of £100 .. .. .	0 1 0
And where it shall exceed £1000, for every £1000, and any fractional part of £1000 .. .. .	0 10 0
Policy of assurance for loss or damage by fire .. .. .	0 1 0
Against accident or for plate glass—Premium not exceeding 2s. 6d. .. .. .	0 0 1
Premium not exceeding 5s. .. .. .	0 0 3
Exceeding 5s., for every 5s. or fraction .. .. .	0 0 3
Settlement of Money or Stock, per £100 .. .. .	0 5 0
Transfer of Stock not public .. .. .	1 10 0
If upon Sale, 10s. per cent.	
If upon Mortgage, 2s. 6d. per cent.	
Passport Stamps .. .. .	0 0 6
Bill of Lading of or for goods or merchandise .. .. .	0 5 0
Charterparty .. .. .	5 0 0
Certificate of Registration of Designs .. .. .	1s. to 100 0 0
Patents for Inventions, various documents .. .. .	£3 or 5 0 0
Exemplifications .. .. .	

## SPOILED STAMPS.

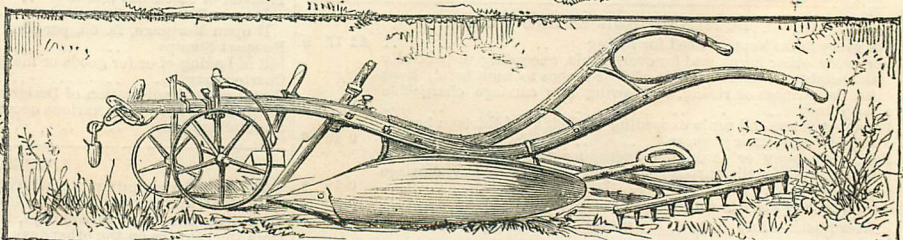
The days for claiming the allowance at Somerset House are Tuesdays, Thursdays, and Saturdays, from 12 to 2 o'clock, and at Gresham House, 21, Old Broad-street, on Mondays, from 11 to 2 o'clock, for London; and from the country on the other days from 10 to 4 o'clock.





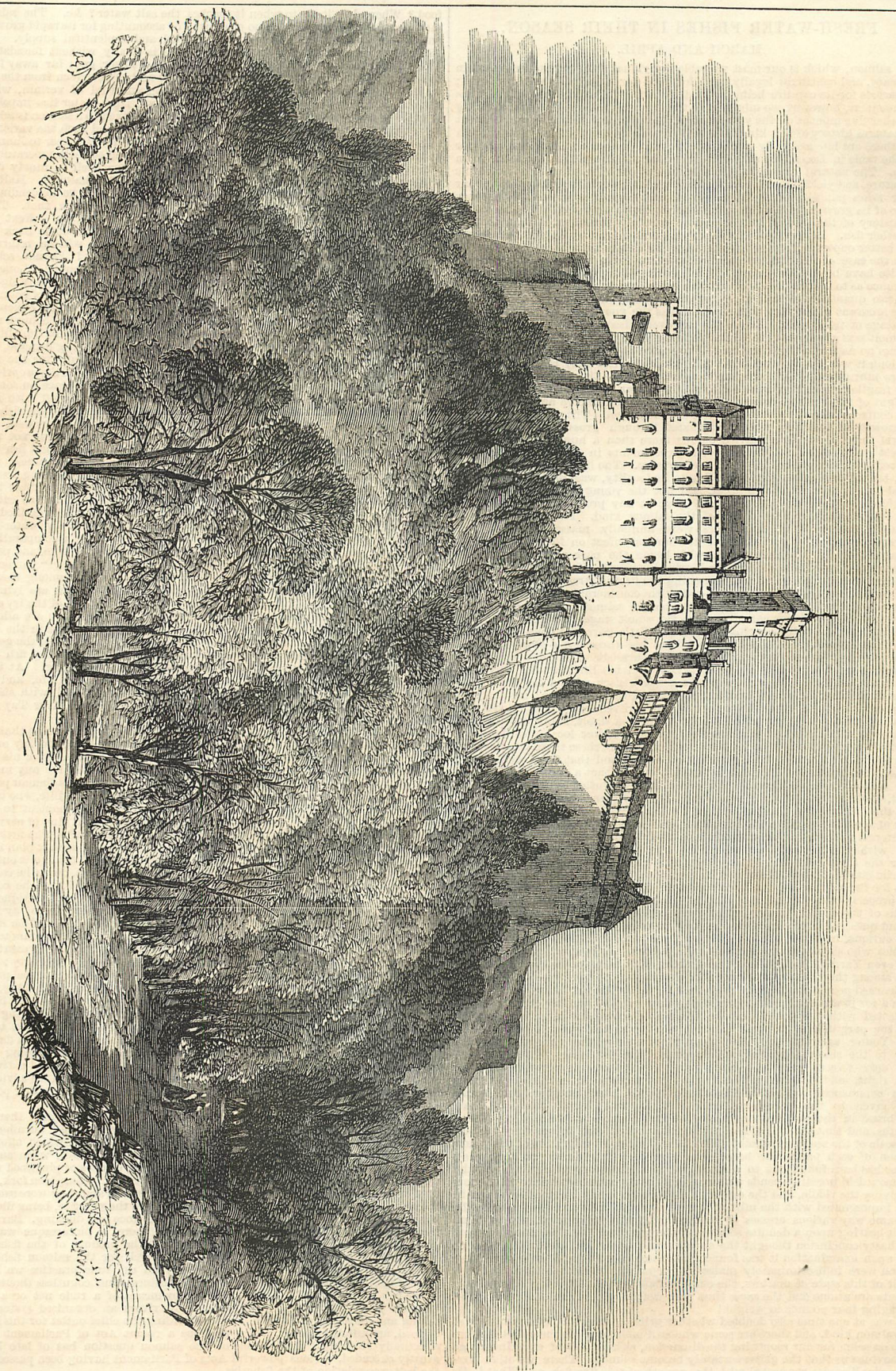
BADGER AND CUBS.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT			
			Rises.	Sets.	Age	Rises.	Sets.	Age	London Bridge.		Liverpool Dock.	
			H. M.	H. M.		Morn.	Aftern.	Dys	Morn.	Aftern.	Morn.	Aftern.
1	F	Cambridge Easter Term beg.	5 37	6 32	2 42	0 16	24	8 15	9 2	5 40	6 23	
2	S	Battle of Copenhagen, 1802	5 35	6 33	3 16	1 35	25	9 44	10 30	7 8	7 50	
3	S	<b>LOW SUNDAY</b>	5 32	6 35	3 45	2 55	26	11 12	11 46	8 24	8 55	
4	M	[Admiral Ross died, 1862]	5 30	6 37	4 10	4 16	27	—	0 17	9 22	9 46	
5	Tu	Napoleon abdicated, 1814	5 28	6 38	4 37	5 38	28	0 44	1 8	10 11	10 32	
6	W	Oxford Easter Term begins	5 26	6 40	5 4	6 58	●	1 33	1 54	10 53	11 16	
7	Th	Prince Leopold born, 1853	5 23	6 42	5 33	8 16	1	2 15	2 38	11 37	11 58	
8	F	Lord Chatham died, 1778	5 21	6 43	6 6	9 29	2	2 59	3 20	—	0 19	
9	S	Fire Insurance due	5 19	6 45	6 43	10 36	3	3 41	4 0	0 38	0 59	
10	S	<b>2ND SUN. AFT. EAST.</b>	5 17	6 47	7 27	11 35	4	4 21	4 40	1 18	1 37	
11	M	Peace of Utrecht, 1713	5 15	6 48	8 17	Morn.	5	4 59	5 19	1 57	2 18	
12	Tu	Rodney's Victory, 1782	5 12	6 50	9 13	0 25	6	5 40	6 2	2 40	3 3	
13	W	Handel died, 1759	5 10	6 52	10 12	1 5	7	6 25	6 50	3 28	3 53	
14	Th	Princess Beatrice born, 1857	5 8	6 53	11 13	1 39	●	7 15	7 47	4 25	5 0	
15	F	Easter Term begins	5 6	6 55	Aftern.	2 8	9	8 22	9 1	5 39	6 18	
16	S	Tercentenary of birth of Shakespeare, 1864	5 4	6 57	1 21	2 31	10	9 40	10 17	6 55	7 31	
17	S	<b>3RD SUN. AFT. EAST.</b>	5 2	6 58	2 25	2 53	11	10 53	11 27	8 5	8 35	
18	M	Day breaks 2h. 46m.	5 0	7 0	3 30	3 14	12	11 57	—	8 59	9 20	
19	Tu	Byron died, 1824	4 58	7 2	4 36	3 35	13	0 21	0 42	9 39	9 57	
20	W	Siege of Derry, 1689	4 55	7 3	5 43	3 56	14	1 1	1 19	10 16	10 32	
21	Th	Cromwell made Protector, 1653	4 53	7 5	6 52	4 20	15	1 38	1 54	10 50	11 6	
22	F	Arctic Ships deserted, 1848	4 51	7 7	8 2	4 48	○	2 12	2 28	11 14	11 41	
23	S	<i>St. George</i>	4 49	7 8	9 9	5 20	17	2 46	3 3	11 59	—	
24	S	<b>4TH SUN. AFT. EAST.</b>	4 47	7 10	10 13	5 59	18	3 21	3 38	0 16	0 35	
25	M	Princess Alice born, 1843	4 45	7 12	11 12	6 47	19	3 57	4 15	0 53	1 12	
26	Tu	New Orleans taken, 1802	4 43	7 13	Morn.	7 46	20	4 34	4 56	1 34	1 53	
27	W	French enter Piedmont, 1859	4 41	7 15	0 0	8 52	21	5 15	5 38	2 16	2 41	
28	Th	Mutiny of the Bounty, 1789	4 39	7 17	0 42	10 5	22	6 3	6 31	3 9	3 37	
29	F	Lord Melville tried, 1806	4 37	7 18	1 17	11 22	●	6 59	7 32	4 10	4 47	
30	S	London University commenced, 1827	4 35	7 20	1 46	Aftern.	24	8 9	8 50	5 28	6 9	





THE CASTLE OF WARBURG, GERMANY, THE "PALMOS" OF LUTHER.—FROM "THE ILLUSTRATED LONDON NEWS."





## FRESH-WATER FISHES IN THEIR SEASON.

## MARCH AND APRIL.

THE salmon, which is our most valuable individual fish, comes into season in February, and continues legally good for food for a space of seven months; the periods for its capture being defined by Acts of Parliament. By a little arrangement, however, we might have this fine red fish on our table during the other five months of the year as well. As we now know so much about the natural history of this king of the river, we ought so to arrange its growth (for there are late and early rivers, and we have seen clean fish in prime order for the table in December) as to have it fit for use as well in November as in June. The natural history of the salmon has contributed more to scientific literature, and yielded more sport to literary controversialists, than most of our other fishes put together. There have been disputes connected with every phase of its growth; and, from being a personal property of considerable value, the history of the salmon has been more carefully investigated than that of any other fish. In fact, from its large size and migratory habits, there have been better opportunities for investigating its habits than there can possibly be in the case of fish that are never known to leave the sea. Those opportunities have been taken advantage of during late years; but the popular ignorance as to its conditions of growth led at one time to the destruction of immense quantities of salmon fry, or parr, as they are called—the destroyers being ignorant of the fact that the parr was the young of the salmon in the first stage of its growth. Before the parr were discovered to be young salmon the smolt was always held to be the yearling young of that fish. For a series of years no naturalist took the trouble to watch the spawning beds or to mark how long it was ere the eggs came to life. All winter they lay, with the cold waters murmuring over them; and at last, when the tiny fish did burst from their fragile prison, they were unheeded for a year, and not till it had attained a weight of two or three ounces did the young salmon receive any attention; or have conferred upon it a name and a local habitation. The controversy about the growth of this fish, which originated through gross ignorance of its natural history, has been carried on for more than a hundred years, and is not yet quite settled, although recent experiments in salmon culture have resolved the chief difficulties of the controversy. The little fish known as the parr, branding, samlet, &c., according to its locality, was up to a very recent period held to be a distinct animal, and not the young of the salmon at all; therefore, none of the Salmon Acts gave it any protection, it not being, according to popular idea, a fish of the salmon kind. The result was that countless thousands of the parrs were annually massacred; and this destruction had, ultimately, a most detrimental effect on future supplies of the parent fish. The first person who began the parr controversy, in its modern phase, was James Hogg, the Ettrick Shepherd. He had, while herding his sheep, many opportunities of watching the fishing streams, and, like most of his class, he wielded his fishing-rod with considerable dexterity. While fishing in the tributaries of some of the border salmon streams he had often caught the parr as it was changing into the smolt stage, and had, after close observation, come to the conclusion that the little parr was none other than the infant salmon. Mr. Hogg did not keep his discovery a secret, and the more his facts were controverted by the naturalists of the day the louder became his proclamations. He had suspected all his life that the parr were salmon in their first stage; he would catch a parr with a few straggling scales upon him; he would look at this fish and think it queer; instantly he would catch another a little better covered with silver scales, but all loose, and not adhering to the body. Again he would catch a smolt, manifestly a smolt, all covered with the white silver scales, yet still rather loose upon his skin, and these would come off in his hand. On removing these there was the parr, with the blue finger marks below the new scales; and that these were young salmon then became as manifest to the Shepherd as that a lamb, if suffered to live, would become a sheep. Whenever this conclusion was settled in his mind, the Shepherd at once proclaimed his new-gained knowledge. "What will the fishermen of Scotland think," said he, "when I assure them, on the faith of long experience and observation, and on the word of one who can have no interest in instilling an untruth into their minds, that every insignificant parr with which every cockney fisher fills his basket is a salmon lost!" After the investigations of Mr. Hogg came the more regularly conducted experiments of Messrs. Shaw and Young, who, unknown to each other, took steps for the solution of the vexed question by growing the fish from the egg in a properly-protected piece of water. We need not enter minutely into the details of these fresh trials. They were perfectly successful, and succeeded beyond question in proving that the parr was the young of the true salmon. It is curious, however, that even after these demonstrations there were still sceptics who shook their wise heads and doubted. In fact, when we consider that even Yarrell, Jardine, and Buist, along with many other authorities, had been among the opponents of the Ettrick Shepherd, we cannot wonder that less learned people doubted the proofs set forth by Messrs. Shaw and Young. Even after it was settled that parr were young salmon, another curious matter connected with the growth of the fish was discovered. Mr. Shaw asserted that the parr did not become a smolt till it was two years of age, whilst Mr. Young asserted that the time required for the change from the parr to the smolt stage, at which period the fish seeks the salt water, was only twelve months. Each party held that his view of the case was right, and it was not till the experiments in artificial breeding were commenced at the Stormontfield ponds that another complexion was given to the parr question, when it was found that one half the brood in the ponds changed to the smolt stage at the end of twelve months, and that the other half remained another year before they took on the scale of the seagoing smolt! This fact of a partial migration of the young salmon of each particular brood has never been explained; no regulating power has been found out to account for the migratory principle. At the Stormontfield breeding-ponds various experiments have been tried with a view of solving the riddle, and the eggs of a full-grown female salmon have been in vain impregnated with the milt of a tiny parr; no difference was found. In the same way various crosses of salmon and grilse were tried, but with no result bearing upon a definite solution of the question. One person who leaped to a hasty conclusion thought the shoals would be divided according to sex; but upon examination it was found that those departing and those remaining behind were indiscriminately males and females. We have therefore, as a result of this state of matters, the curious fact that the offspring of the same parents are at one and the same time parr weighing about an ounce and grilse averaging four pounds in weight!

It was at one time also doubted whether grilse were not a distinct variety of the salmon kind, and there are some who still maintain this theory; but there is no occasion for our reopening the discussion, as hundreds of experiments go to convince us that the grilse certainly become salmon. There are other controversies likewise connected with the growth of this fine fish, as—What is its

food? Where does it go to when it reaches the salt water? &c. The salmon must feed largely, for there is no other way of accounting for its rapid growth; and in the sea it no doubt finds congenial food and a plentiful supply. The old story of its rushing away to the North Pole is totally without foundation. The salmon, like all other fishes, is very local, and never goes far away from the estuary of its own particular stream. It is said to be driven from the salt water in consequence of becoming infested with some kind of vermin, which can only be killed by fresh water; and, vice versa, fresh-water lice impelling it again to seek the sea. The average period of life given to a salmon is seldom more than four years—such is the demand for the fish, and such the variety of means adopted to capture it. The eggs are deposited from October to January, and they take various periods to come to life, according to the temperature to which they are exposed; some ripen and burst the shell in ninety days, while others will require another month before they are hatched. Half the quantity hatched, for instance, last year (viz., 1863) will be descending to the sea about April or May (1864)—a few even earlier than that. These will return as sizeable grilse in June, July, and August. Next year the second moiety of the fish will depart for the sea, and come back also as grilse, whilst all that are left of last year's fish will be returning at the same time as salmon eight or ten pounds in weight! Salmon seldom now attain a weight of more than from fifteen to eighteen pounds. Long ago sixty-pound fish were by no means rare, and twelve years back salmon weighing thirty and forty pounds used frequently to be seen on our fishermen's counters. In the golden age of the fisheries salmon are said to have been very plentiful and attainable for food by all classes of the community, the price being a mere trifle; but railways now carry away our sea produce with such rapidity to far-off cities and populous towns, where there is an increasing demand, that the price has risen to such a point as to make this fish a luxury for the rich. It adds to our regret to know that this exceeding demand has led the proprietors into a system of fishing that has already exercised a fatal influence on some of the chief English salmon streams, and which is also likely to tell with fatal effect on the rivers of other countries as well. The tenants of the fisheries thought of nothing but to catch all the fish they came upon. They were only tenants, and had no care for the supplies of future seasons; it was not their interest to leave a breeding-stock for succeeding years; and so, what fish were in the river were eagerly caught. In fact, the fecundity of the salmon is so great that unthinking people have never realised the fact of its being possible to exterminate it. But if a ten-pound salmon yield 10,000 eggs, there is no guarantee that even 5 per cent of that number will reach the table as eatable fish. When we deduct the percentage of eggs that are never fructified, the quantity that never come to life, the number that is devoured by water-fowl and other enemies, it will be obvious that we obtain only a comparatively small number of fish, and of these thousands are devoured by pike, and perch, and yellow trout, and others long before they are out of their "parrhood." Then, when the army of smolts enters the sea, the carnage among them is fearful, at least two-thirds of them being eaten by sea fish that are lying in wait for their arrival. It will be seen, therefore, that very few of the fry come back to their native river as grilse, and still fewer of these grilse are allowed to return again to the sea, for grilse brings nearly as good a price in the fishmonger's shop as salmon; therefore we kill the goose for the sake of the golden egg. It is in saving this waste of eggs and in protecting the young fish that there is so great an advantage in the artificial system of hatching. At Stormontfield upwards of a million eggs have been reared into life, and the young fish protected till able to fight their own battle, and with such a favourable result as already to have increased the rental of the river Tay very considerably.

Some of our anglers will not waste their time on any fish less noble than the salmon; indeed, for sport there is no fish like it. An angler on the Tay or the Tweed, or on a Welsh river, with a sixteen-pound fish at the end of his line, is not in the enjoyment of a sinecure, although he would not for any money have his work done by deputy. We have seen before now a gentleman play a fish for seven hours rather than yield his rod to the attendant gillie, who could have landed the fish in half an hour's time. It is a thrilling moment to find that for the first time one has hooked a salmon; it produces a kind of nervousness that does not at all tend to the speedy landing of the fish. The first idea is to haul our scaly friend out of the water by sheer force; but that plan must be speedily given up, for the fish makes a dash up stream that runs out the line in fine style; then, when once he gets a bite of his bridle, down he comes, or away he goes sulking into some hiding-place. In a brief time he comes out again with renewed force, and dashes about till you become so fatigued as almost not to care whether you land him or not. It is impossible to say how long an angler may have to "play" a salmon or large grilse; but if he sinks himself to the bottom of a deep pool, it will likely be a business of hours to get him safe into the landing net, if he be not lost altogether, as, in his exertions to escape, he may chafe through the line, and so regain his liberty; and during the progress of the battle the angler may have to wade or be pulled into the stream once or twice, so that he comes in for a thorough ducking, and may, as we have seen, have to go home, after a hard day's work, without being rewarded by the capture of a single fish. Plenty of good salmon angling can be had in the north of Scotland, where there are always fishings to be let; and there is nothing better, either for health or recreation, than a day on a salmon stream. The plan which every angler ought to adopt on going to a strange water is to place himself under the guidance of some shrewd native of the place, who will show him all the best pools, and aid him with his advice as to what flies he ought to use, and give him many useful hints on other points as well.

In former times there were more ways of killing a salmon than by angling for him. Parties used to be made up for the purpose of "burning the water," a practice which prevailed largely on the Tweed, and which afforded good rough sport. The burning took place a little after sunset, when an old boat was commissioned for the purpose, and flaming torches of pinewood were lighted to lure the fish to their destruction. The leister, a sharp iron fork, was used on these occasions with deadly power. Rude mirth and song were usually the order of the night on these occasions; and the practice, being illegal, was not without a spice of danger, or at least a chance of a ducking. Burning the water it must, however, be confessed was more a picturesque way of poaching than a means of adding legitimately to the produce of the fisheries as a branch of commerce. It would have been well for the salmon fisheries had the arts of poaching never extended beyond the rude practice we have alluded to; but now poaching has become a business, and countless thousands of the fish are swept off the breeding-beds by means of a rude net or a few blankets joined together. There is on most rivers an organised system of taking and disposing of the fish, France affording the chief outlet for this kind of food, an outlet, however, which we hope a recent Act of Parliament will effectually close up. Legislation on the salmon question has of late been greatly extended, various powerful Acts of Parliament having been passed for the better regulation of the fisheries.



LIST OF THE MOST EMINENT PERSONS WHO HAVE  
DIED WITHIN THE LAST TWELVE MONTHS.

*\*\* Memoirs of all these, with the Arms and Portraits of some, are to be found  
in the Illustrated London News.*

1862.

- Oct. 1.—John James Pomeroy, fifth Viscount Harberton.  
3.—Admiral Sir James Whitley Deans Dundas, G.C.B.  
11.—Sir Thomas Nicholas Redington, K.C.B., of Kilcormac, in the county of Galway.  
13.—Sir Andrew Leith Hay, K.H., of Harnes, Aberdeenshire.  
13.—Charlotte, Dowager Countess of Albemarle, née Hunloke.  
13.—Henry Benedict, eleventh Baron Arundell, of Wardour.  
14.—Sir Martin Hyde Crawley-Boevey, fourth Baronet, of Flaxley Abbey, Gloucestershire.  
16.—Sir George Houlton, Knt., Ensign of the Yeomen of the Guard to William IV.  
16.—The Right Rev. Dr. Caulfield, Bishop of Nassau.  
19.—John Dutton, second Baron Sherborne.  
21.—Sir Benjamin Collins Brodie, Bart., D.C.L., P.R.S., one of the most eminent surgeons this or any country has produced.  
29.—Elizabeth, Dowager Lady Stafford, née Caton.  
Nov.—Jonas Webb, Esq., a great agriculturist.  
Sir Robert Sheffield, fourth Baronet, of Normanby, Lincolnshire.  
2.—Major Henry Loftus.  
7.—Sir John Campbell, K.G., second Marquis of Breadalbane.  
21.—Admiral Sir Charles Sullivan, R.N., third Baronet, of Thames Ditton.  
22.—Sir Richard Pierce Butler, ninth Baronet, of Garryhundred, in the county of Carlow.  
25.—Elizabeth, Dowager Countess Granville, née Cavendish.  
27.—Dowager Lady Blakiston, née Rochfort, aged 103.  
28.—The Hon. Mrs. Stewart Mackenzie.  
30.—William Deedes, Esq., M.P., of Sandling Park, Kent.  
Dec.—James Sheridan Knowles, a celebrated dramatic writer.  
Sir Duncan Macdougall, K.S.F.  
The Hon. Anne, Dowager Lady Gibson Carmichael, née Napier.  
3.—Sir Timothy O'Brien, Bart., of Borris in Ossory, Queen's County.  
Miss Pardee, Author of "The City of the Sultan," and other popular works.  
4.—Henry Thomas Hope, Esq., of Deepdene, Surrey, Author of "Anastasis," and a great patron of Literature and the Fine Arts.  
14.—Sir Michael Bruce, eighth Baronet, of Stenhouse, in the county of Stirling.  
17.—Mrs. Katherine Thomson, author of "Memoirs of Henry VIII." and other popular works.  
17.—Sir William John Monson, sixth Baron Monson, of Burton, Lincolnshire.  
17.—Joseph Alexander Reine, Count de Beaurepaire Louvagny, a distinguished Norman diplomatist and savant.  
20.—General Sir P. Bainbridge, K.C.B.  
20.—Sir G. E. Hamond, G.C.B., K.C.T.S., second Baronet, of Holly Grove, Berkshire, Admiral of the Fleet.  
22.—George Hay, Earl of Gifford, eldest son of the Marquis of Townshend.  
23.—Sir Matthew Blakiston, third Baronet, of London, who died, aged eighty, within a month after his mother's death.  
24.—Horatia, Lady Forbes, née Shaw.  
27.—Catherine Winifred, Dowager Baroness Stourton, née Weld.  
1863.  
Jan.—The Right Rev. Dr. G. Jehosaphat Mountain, Bishop of Quebec.  
Colonel Sir George Lloyd Hodges, K.C.B., a distinguished military officer and diplomatist.  
5.—Charles Dance, Esq., a dramatic writer of note.  
8.—The Rev. Robert Hankinson, M.A., Vicar of Walpole St. Andrew's.  
9.—Harriet, Lady Brenton, widow of the gallant Admiral Sir J. Leche Brenton, Bart., K.C.B.  
11.—The Rev. Charles Rogers, M.A.  
17.—Horace Vernet, the great French painter.  
17.—Richard Green, Esq., a wealthy and enterprising merchant and ship-owner, and great philanthropist.  
18.—Said Pacha, Viceroy of Egypt.  
21.—Sarah Lady Kirkcubright, née Gorges, widow of the late Lord Kirkcubright.  
22.—Eliza, Dowager Lady Monson, née Larken.  
22.—William Cotton, Esq., F.S.A.  
24.—Sir St. Vincent Cotton, sixth and last Baronet, of Landwade, Cambridgeshire.  
24.—Sir Henry Lushington, second Baronet, of Southill Park, Berks.  
27.—Colonel Sir Ord Honyman, third Baronet, of Armadale, in the county of Orkney, formerly of the Grenadier Guards.  
27.—Sir William Arrindell, C.B., Chief Justice of Demerara.  
31.—Sir Henry Pelley Fitz Maurice, K.G., third Marquis of Lansdowne, an able and highly-popular statesman.  
31.—Sir J. B. Robinson, Bart., of Beverley House, Toronto, C.B.  
Feb.—The Right Rev. George Tomlinson, D.D., Bishop of Gibraltar.  
Sir Duncan Cameron, second Baronet of Fassefern, Argyshire.  
6.—Sir J. E. Remono, Kt., Judge of the Supreme Court of the Mauritius.  
8.—Lieutenant Colonel John Nicholas Lucas, of Stout Hall, Glamorgan-shire.  
9.—Sir William Stevenson, K.C.B., Governor of the Mauritius.  
11.—Vice-Admiral Charles George Rodney Phillott, R.N.  
Rear-Admiral Digby Marsh, R.N.  
The Rev. Henry Drury, M.A., Chaplain to the House of Commons.  
18.—Sir Charles Edward Pepys, second Earl of Cottenham.  
18.—Sir Alexander Mackay, eighth Baron Reay.  
19.—Thomas Charles Hanbury Tracy, 2nd Baron Sudeley, of Toddington, in the county of Gloucester.  
22.—Mary Anne, Dowager Lady Carteret, née Master.  
24.—Daniel Whittle Harvey, Commissioner of the London City Police Force, formerly M.P. for Southwark, and of distinction in connection with the press and politics.  
March.—W. Gragson, Esq., Under Secretary of State for the Home Department.  
Rear-Admiral Christopher Wyvell, R.N.  
Mrs. Massingherd, of Ormsby Hall, Lincolnshire.  
10.—Digby Cayley Wrangham, Queen's Serjeant, P.P.  
11.—Lieutenant-General Sir James Outram, G.C.B., K.S.I., the "Bayard of India."  
15.—Francis Maria, Viscountess Gough (née Stephens) wife of the distinguished Field Marshal, Viscount Gough.  
15.—Cesar Mansuete Despretz, an eminent chemist and natural philosopher.  
17.—Ellenor Mary, Lady Westbury, wife of the Lord Chancellor.  
17.—Lady Camilla Sinclair, née Talmash, wife of Sir George Sinclair, Bart.  
20.—Sir Henry Roper, late Chief Justice at Bombay.  
21.—Sir Tatton Sykes, fourth Baronet, of Sledmere, in the county of York, a great sportsman and a highly popular country gentleman.

- 22.—Sir Anthony Maitland, tenth Earl of Lauderdale.  
25.—A. L. Egg, Esq., R.A.  
26.—Henry Fitzroy, fifth Duke of Grafton.  
28.—Henry Montagu Upton, second Viscount Templetown.  
28.—The Marquis Grimaldi, of Genoa, and of Maize-hill, Greenwich.  
31.—Sir Henry Manners Cavendish, Baron Waterpark.  
31.—Admiral Sir John Louis, R.N., second Baronet, of Chelston, Devon.  
31.—Vice-Admiral G. W. C. Courtenay, R.N.  
April.—The Rev. Edward Stokes, M.A., Vicar of Staines and Rural Dean.  
Commander Robert Heron Burton, R.N., lost in the wreck of the Orpheus.  
3.—Henry Weston, Esq., of West Horsley-place, Surrey.  
12.—Lieut.-Colonel James Poole Oates, K.H.  
9.—Sir James Saumarez, in holy orders, second Baron de Saumarez.  
10.—Arthur Marcus Cecil Hill, Lord Sandys, of Ombersley.  
13.—The Right Hon. Sir George Cornwall Lewis, second Baronet, of Harpton Court, Radnorshire, a distinguished scholar and statesman.  
17.—Charlotte, Countess Dowager of Verulam, née Jenkinson.  
17.—Field Marshal Sir John Colborne, G.C.B., Lord Seaton, one of the most gallant and effective of the Peninsular and Waterloo military leaders.  
21.—Sir Robert Bateson, Bart., of Belvoir Park.  
28.—Sir John Skeffington Foster-Skeffington, K.P., Viscount Massereene, an excellent nobleman, universally and deservedly popular; accidentally killed.  
23.—Jane Elizabeth, Dowager Viscountess Andover, née Coke.  
May.—The Rev. John Russell, D.D., Canon of Canterbury and Rector of St. Botolph, Bishopsgate.  
Thomas Tobin, Esq., an eminent Liverpool merchant.  
2.—Sir John Walter Pollen, second Baronet, of Reddenham, Hants.  
2.—Lieutenant-Colonel Sir William Lascelles Wrexall, second Baronet, of Wrexall, in the county of Somerset.  
4.—Edward John Littleton, D.C.L., P.C., Lord Hatherton, a politician and statesman of note.  
14.—Jane, Countess Dowager of Carnwath, née Carnell.  
16.—Sir Richard Hughes, fifth Baronet, of East Bergholt, Suffolk, the representative of a very ancient Welsh family, distinguished in our naval annals.  
17.—Western Wood, Esq., M.P. for the city of London.  
18.—The Hon. Frederick A. H. Chichester, third son of Arthur, first Lord Templemore.  
21.—Sir Culling Eardley Eardley, third Baronet, of Hadley, Middlesex.  
23.—Mary Fanny, Lady Leonfield, née Blunt.  
28.—Edward Roger Pratt, Esq., of Eyston Hall, Norfolk.  
June 2.—John Congreve, Esq., of Mount Congreve, in the county of Waterford.  
June 7.—James Gernon, Esq., of Athcarney Castle, in the county of Meath.  
10.—Charles Standish, Esq., of Standish Hall, in the county of Lancaster.  
12.—Adam Bruce, a Swedish nobleman, Chamberlain to Gustavus III.  
13.—Frederick Robinson, Esq., of Widmerpool Hall, Nottinghamshire.  
14.—Anne Maria, Dowager Lady Borough, née Lake.  
15.—Captain Charles William Gordon, third son of the late Charles Gordon, Esq., of Fyvie Castle, Aberdeenshire.  
24.—Admiral the Hon. Sir G. Elliott, R.N., K.C.B.  
26.—Sir Joshua Jebb, K.C.B., Surveyor-General of Prisons.  
28.—General Sir James Lillyman Caldwell, G.C.B., Colonel Commandant R.E.  
29.—Sir William Thomas Stanley Massey Stanley, tenth Baronet, of Hooton, Cheshire.  
29.—James Hans Hamilton, Esq., of Abbotstown and Holmpatrick, in the county of Dublin, J.P., formerly M.P. for the county of Dublin.  
29.—Caroline, Dowager Lady Poltimore, née Buller.  
July 5.—General Sir Thomas Erskine Napier, K.C.B.  
6.—Anne, Dowager Baroness Kilmaine, née Cavendish.  
8.—Catherine Fremantle, Countess Dowager of Caledon, née Yorke.  
9.—Lady Kathleen Louisa Georgiana Tighe, née Ponsonby, wife of Lieut.-Colonel Frederick Edward Tighe, eldest son of Daniel Tighe, Esq., of Rosanna, in the county of Wicklow.  
12.—Eliza Lady Twysden, née May, late of Adelaide-terrace, Brighton, and Hadlow Castle, Tunbridge, Kent, wife of Sir William Twysden, eighth Baronet, of Roydon Hall, Kent.  
15.—Sir William Alexander Anthony Archibald Douglas Hamilton, eleventh Duke of Hamilton and eighth Duke of Brandon.  
10.—Major the Hon. Henry Littleton Powys-Keck, fifth son of Thomas, second Lord Lilford.  
15.—Thomas Sadleir, Esq., J.P., of Ballinderry and Castletown, in the county of Tipperary.  
19.—Sir Isaac Grant, sixth Baronet, of Monymusk, in the county of Aberdeen.  
24.—Thomas Arthur Grattan Bellew, Esq., of Mount Bellew, in the county of Galway.  
25.—Sir Godfrey William Wentworth Macdonald, fourth Lord Macdonald, Baron of Slate, in the county of Antrim.  
25.—William Richard Arthur Pole Tyrney Long Wellesley, sixth Earl of Mornington.  
27.—Urania Lady Tucker, née Leeke.  
27.—Cecilia Olivia Geraldine, Dowager Lady Foley, daughter of the second Duke of Leinster.  
27.—General Sir Hugh Halkett, a distinguished officer in the British service and in that of Hanover.  
28.—Sir Constantine Henry Phipps, K.G., G.C.B., first Marquis of Normanby and second Earl of Mulgrave, a distinguished writer, diplomatist, and statesman.  
28.—General Sir Ulysses De Burgh, G.C.B., K.T.S., second Baron Downes, of Aghanville, King's County, Colonel of the 29th Regt.  
29.—Sir Cresswell Cresswell, P.C., S.L., the able Judge of the Court of Probate and the Divorce Court.  
Aug.—Henry Raeburn, Esq., of St. Bernard's.  
John Hardiman Burke, Esq., of St. Clerans, in the county of Galway, Lieut.-Col. of 3rd Regiment, brother of James Burke, the hero of Silistria, and of Robert O'Hara Burke, of Australian celebrity.  
4.—Mrs. Warner, née Shipley, widow of Colonel Edward Warner.  
7.—Beriah Botfield, Esq., F.R.S., F.S.A., of Norton Hall, Northamptonshire, and Hapton Court and Decker-hill, Shropshire, M.P. for Ludlow.  
8.—Sir Frederick William Slade, Q.C., second Baronet, of Maunsel House, Somersetshire, a distinguished barrister of the Western Circuit.  
8.—James William Gilbert, Esq., celebrated in connection with joint-stock banking.  
13.—Sir Angus Campbell, second Baronet of Dunstaffnage, Argyshire, hereditary Captain of the Royal Castle of Dunstaffnage.  
14.—Field Marshal Sir Colin Campbell, G.C.B., K.S.I., D.C.L., Baron Clyde of Clydesdale, Colonel of the Coldstream Guards, one of the greatest soldiers of his time.  
14.—Admiral Octavius Henry Vernon Harcourt, R.N., of Swinton Park, Masham.  
18.—The Rev. Thomas Raffles, D.D., LL.D., one of the most distinguished and excellent divines of his time; a very eloquent preacher, and a writer and poet.  
22.—John French, in Holy Orders, second Lord De Freyne, of Coolavin, in the county of Sligo, in the Peerage of the United Kingdom.





FAWNING-TIME OF FALLOW-DOE AND FAWN.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT			
			Rises.	Sets.	Age.	Rises.	Sets.	Age.	London Bridge.	Liverpool Dock.	Morn.	Aftern.
1	S	ROGATION SUNDAY.	4 34	7 21	2 13	1 59	25	9 31	10 9	6 47	7 24	
2	M	Day breaks 2h. 0m.	4 32	7 23	2 38	3 17	26	10 46	11 20	7 58	8 28	
3	Tu	Jamaica taken, 1695	4 30	7 25	3 5	4 35	27	11 50	—	8 56	9 22	
4	W	Inundation at Lynn, 1862	4 28	7 26	3 31	5 53	28	0 18	0 44	9 47	10 12	
5	Th	Ascension Day, Holy Thurs.	4 26	7 28	4 2	7 8	29	1 9	1 34	10 36	10 56	
6	F	St. John Evangelist	4 24	7 29	4 37	8 17	30	1 58	2 18	11 18	11 38	
7	S	Savings Banks introd., 1815	4 23	7 31	5 19	9 20	2	2 40	3 0	—	—	
8	S	6TH S. AFT. EAST.	4 21	7 33	6 5	10 15	3	3 22	3 40	0 18	0 38	
9	M	Easter Term ends	4 19	7 34	6 59	11 0	4	4 0	4 20	0 58	1 17	
10	Tu	Indian Mutiny, 1857	4 18	7 36	7 59	11 37	5	4 39	4 59	1 37	1 58	
11	W	Revolt in Sicily, 1860	4 16	7 37	8 59	Morn.	6	5 20	5 38	2 26	2 37	
12	Th	Twilight ends 10h. 33m.	4 15	7 39	10 4	0 8	7	5 59	6 22	3 0	3 23	
13	F	Camb. Easter Term divides	4 13	7 40	11 8	0 33	8	6 45	7 10	3 48	4 15	
14	S	Oxford Easter Term ends	4 11	7 42	Aftern.	0 56	9	7 37	8 7	4 45	5 21	
15	S	PENTECOST. WHIT SUND.	4 10	7 43	1 15	1 17	10	8 43	9 18	5 56	6 29	
16	M	Battle of Albuera, 1811	4 8	7 45	2 20	1 38	11	9 51	10 22	7 0	7 34	
17	Tu	French Empire estab., 1804	4 7	7 46	3 26	1 59	12	10 56	11 26	8 4	8 32	
18	W	Crimean Medals distrib., 1855	4 6	7 48	4 34	2 23	13	11 54	—	8 55	9 16	
19	Th	Battle of La Hogue, 1692	4 4	7 49	5 45	2 47	14	0 17	0 38	9 37	9 58	
20	F	Columbus died, 1506	4 3	7 50	6 54	3 17	15	0 59	1 20	10 19	10 40	
21	S	Miss Edgeworth died, 1849	4 2	7 52	8 1	3 55	16	1 41	2 2	10 58	11 18	
22	S	TRINITY SUNDAY.	4 0	7 53	9 3	4 40	17	2 20	2 40	11 36	11 57	
23	M	Battle of Ramillies, 1706	3 59	7 55	9 57	5 35	18	2 58	3 19	—	0 17	
24	Tu	Queen Victoria born, 1819	3 58	7 56	10 42	6 41	19	3 39	4 0	0 38	1 0	
25	W	Princess Helena born, 1846	3 57	7 57	11 21	7 54	20	4 22	4 45	1 23	1 44	
26	Th	Corpus Christi	3 56	7 58	11 52	9 10	21	5 6	5 31	2 9	2 35	
27	F	Habeas Corpus inst., 1679	3 55	8 0	Morn.	10 28	22	5 57	6 24	3 2	3 32	
28	S	Davy died, 1829	3 54	8 1	0 18	11 48	23	6 54	7 26	4 4	4 37	
29	S	1ST SUN. AFT. TRIN.	3 53	8 2	0 45	Aftern.	24	7 59	8 32	5 10	5 45	
30	M	Joan of Arc burnt, 1431	3 52	8 3	1 8	2 21	25	9 7	9 43	6 21	6 56	
31	Tu	Chalmers died, 1847	3 51	8 4	1 34	3 37	26	10 18	10 49	7 27	7 58	





"THE SHEPHERD OF JERUSALEM."— FROM "THE ILLUSTRATED LONDON NEWS."



PUBLIC ACTS OF PARLIAMENT PASSED IN 1863,  
IN THE 26TH AND 27TH YEARS OF HER MAJESTY'S REIGN.

\*.\* The figure before each act denotes the chapter, and the date after each act records the exact time of its passing.

1. An act to enable her Majesty to provide an annuity of £40,000 for the establishment of the Prince of Wales and Princess Alexandra of Denmark, and to settle on the Princess an annuity of £10,000 during her marriage, and an annuity of £30,000, in case of her surviving the Prince. March 5.
2. An act to make provision concerning bills of exchange and promissory notes payable in the metropolis on the day of the passage through the metropolis of Princess Alexandra of Denmark. March 5.
3. An act to extend the credit for payment of a portion of the excise duty on malt. March 27.
4. An act to extend for a further period the provisions of the Union Relief Aid Act of the last Session. March 27.
5. An act to amend the law relating to the Royal Naval Coast Volunteers. March 27.
6. An act to apply the sum of £1,000,000 out of the Consolidated Fund to the service of the year 1863. March 27.
7. An act for altering the duties on tobacco, and permitting the manufacture of cavendish and negro-head in bond. March 27.
8. An act for punishing mutiny and desertion, and for the better payment of the Army and their quarters. April 20. The Annual Meeting Act.
9. An act for the regulation of her Majesty's Royal Marine Forces while on shore. April 20. Also an annual act.
10. An act forbidding, under penalties, the exportation of unclear or unseasonable salmon, or salmon caught at prohibited times, from any part of the United Kingdom. April 20.
11. An act for the registration of births and deaths in Ireland. April 20.
12. An act to abolish the office of Secretary for War, and to transfer the duties of that office to her Majesty's Principal Secretary of State having the Seals of the War Department. May 4.
13. An act for the protection of certain garden or ornamental grounds in cities and boroughs. May 4. By this act, gardens in squares and in other places, in cities and boroughs, are to be freed from neglect and encroachment; and their management is to be vested, as regards the metropolis, except the city of London, in the Metropolitan Board of Works, and, as regards the city of London and other corporate towns, in the corporate authorities thereof.
14. An act to amend the law relating to Post Office Savings Banks. May 4.
15. An act to apply the sum of £20,000,000 out of the Consolidated Fund to the service of the year 1863. May 11.
16. An act for raising the sum of £1,000,000 by Exchequer Bonds for the service of the year 1863. May 11.
17. An act for amending the 21 and 22 Vic., c. 98, the Local Government Act, 1858. May 11.
18. An act to authorise the inclosure of certain lands in pursuance of a report of the Inclosure Commissioners for England and Wales. May 11. This act incloses Meliden, Flintshire; Chelmarsh-common, Salop; Steeple Langford, Wilts; Bishop-Waltham, Hants; East Clandon, Surrey; Llysfaen, Carnarvonshire; Sandhill Heath, Hants; St. David's, Pembrokeshire; Corpustry, Norfolk; Grayrigg, and Lambriagg and Docker, Westmorland; Ewerby Waith, Lincolnshire; Ockham, Surrey; and Swoffham, Norfolk.
19. An act to amend the law relative to the sale of hares in Ireland. June 8.
20. An act to further limit and define the time for proceeding to election during the recess. June 8. This is effected by reducing the Speaker's notice in the Gazette from fourteen to six days.
21. An act to amend the law enabling Boards of Guardians to recover costs of maintenance of illegitimate children in certain cases in Ireland. June 8.
22. An act to grant certain duties and exemptions relating to the Customs and the Inland Revenue, especially as to the Income Tax on incomes of £100 and £200 a year. June 8.
23. An act to alter the boundaries of New Zealand. June 8.
24. An act to facilitate the appointment of Vice Admirals and of officers in Vice Admiralty Courts in her Majesty's possessions abroad, and to confirm the past proceedings, to extend the jurisdiction, and to amend the practices, of those Courts. June 8.
25. An act to make further provision for the investment of the moneys received by the Commissioners for the Reduction of the National Debt from the trustees of Savings Banks, established under the enactments of the 9th Geo. IV., c. 92. June 8.
26. An act to facilitate the drainage of land in Ireland. June 8.
27. An act to amend the law relating to marriages in Ireland. June 8.
28. An act to give further facilities to the holders of the public stocks. June 8.
29. An act to amend and continue (for five years from the passing of this act, and thence to the end of the then Session of Parliament) the law relating to corrupt practices at Elections of Members of Parliament. June 8.
30. An act to authorise further Harbour Regulations for the protection of her Majesty's Ships, Dockyards, and Naval Stations. June 22.
31. An act for the government of the Cayman Islands, near Jamaica. June 22.
32. An act to confirm certain provisional orders under the Local Government Act, 1858, the 21 and 22 Vic., c. 98, relating to the districts of Basford, Teynsmouth, Kingston-upon-Hull, Nottingham, Bradford, Ryde, Bedford, Croydon, Batley, Berwick-upon-Tweed, Sheerness, and Bromsgrove. June 29.
33. An act for granting to her Majesty certain duties of Inland Revenue, and to amend the laws relating to the Inland Revenue. June 29. This act relates to beer licenses, sugar, stage-carriages, railways, shipping notices, refreshment houses, selling beer, spirits, and wine at fairs or races, and to some matters connected with the Income Tax. By s. 6, the duty on stage-carriages (i.e., omnibuses and similar vehicles) licensed to carry not more than eight persons at one time is reduced to ten shillings.
34. An act to carry into effect an additional article to the treaty, the 7th of April, 1862, between her Majesty and the United States of America for the suppression of the African slave trade. June 29.
35. An act for the prevention and punishment of offences committed by her Majesty's subjects in South Africa, extending the criminal laws of the Cape of Good Hope to all her Majesty's subjects within any territory of Africa south of the 25th degree of south latitude, and not being within the jurisdiction of a civilised Government, and to be cognisable in the Courts of the Cape of Good Hope. June 29.

36. An act for carrying into effect the report of the Commissioners appointed to inquire into the state of the dioceses of Canterbury, London, Winchester, and Rochester; and for other purposes. June 29.
37. An act to detract the charge of pay, clothing, and contingent and other expenses of the disembodied Militia in Great Britain and Ireland; to grant allowances in certain cases to subaltern officers, adjutants, paymasters, quartermasters, surgeons, assistant-surgeons, and surgeon's mates of the Militia; and to authorise the employment of the non-commissioned officers. June 29.
38. An act to amend the act for placing the employment of women, young persons, and children in bleaching-works and dyeing-works under the regulations of the Factories Acts. June 29.
39. An act to authorise the inclosure of certain lands in pursuance of a special report of the Inclosure Commissioners. July 13. This act incloses North Nibley and Bisley, Gloucestershire; Cockfield Fell, Durham; Albury Hertford; Cotherstone Moor, Yorkshire; Baxterly Commons, Warwickshire; Wychoed and Rhyslyn, Radnorshire; Minsterworth, Gloucestershire; West-hope Hill, Herefordshire; Llangwm, Bettws-gwerffil-goch, and Llanfangel-glyn-nyfir, Denbighshire; Mosser, Cumberland; North Moor and South Moor, Somersetshire; Akeld and Humbleton, Northumberland; Llandewi-betri, Cardiganshire; Holt, Wilts; Stanstead-Marsh, the Rye Meads, and Castle Mead, or Canseway Mead, Herts.
40. An act for the regulation of bakehouses; limiting from nine at night to five in the morning the hours of labour in them of persons under eighteen years of age, and providing for the cleanliness and ventilation of them, under penalties. July 13.
41. An act to amend the law respecting the liability of Innkeepers, and to prevent certain frauds upon them. July 13. By this act an Innkeeper is not liable for the loss of the goods or property of a guest in his Inn, beyond the sum of £30, except as to horses, other live animals, or carriages; and except where the goods have been stolen, lost, or injured, through the wilfulness, default, or neglect of the Innkeeper or his servants, and except where the goods have been deposited with the Innkeeper for safe custody.
42. An act to amend the 20 and 21 Vic., c. 23, authorising the sale of mill sites and water powers by the Commissioners of Public Works in Ireland. July 13.
43. An act to enable her Majesty's Postmaster-General to sell and otherwise dispose of land. July 13.
44. An act for the further security of the persons of her Majesty's subjects from personal violence. July 13. This act gives power to Courts, in certain cases of personal violence, to award the punishment of whipping.
45. An act for making a new street from Blackfriars to the Mansion House, in the city of London, in connection with the embankment of the River Thames, on the northern side of that river, and for other purposes. July 13.
46. An act for further continuing till the 5th of July, 1872, and appropriating the London coal and wine duties. July 13.
47. An act for removing doubts as to the powers of the Courts of the Church of Scotland, and extending the powers of the said Courts. July 13.
48. An act to repeal the 20 and 21 Vic., c. 66, for punishing mutiny and desertion of officers and soldiers in the service of the East India Company, for regulating in such service the payment of regimental debts, and the distribution of the effects of officers and soldiers dying in the service. July 13.
49. An act giving power to sell and dispose of lands, parcel of the possessions of the Duchy of Cornwall, and to purchase other lands to be annexed thereto, and to regulate future grants of leases of the possessions of the said Duchy, and for other purposes. July 13.
50. An act to continue the powers of the Commissioners under the Salmon Fisheries (Scotland) Act, the 25 and 26 Vic., c. 97, until Jan. 1, 1865, and to amend the said Act. July 13.
51. An act to amend the Passengers Act, 1855, the 18 and 19 Vic., c. 119. July 13.
52. An act to further extend and make compulsory the practice of vaccination in Ireland. July 13.
53. An act to suspend the making of lists and the ballots for the Militia of the United Kingdom. July 13.
54. An act for vesting in her Majesty's Principal Secretary of State for the War Department certain lands and hereditaments at Walmer, in the county of Kent. July 13.
55. An act to continue the Poor Law Board till July 23, 1864, and the end of the then next Session of Parliament. July 21.
56. An act to make perpetual, the 3 and 4 Vic., c. 110, an act to amend the laws relating to loan societies. July 21.
57. An act to consolidate and amend the acts relating to the payment of regimental debts, and the distribution of the effects of officers and soldiers in case of death, and to make like provision for the cases of desertion and insanity, and other cases. July 21.
58. An act for conforming a scheme of the Charity Commissioners for the management of the charity of Sir Robert Hitchman, Knight, King's Sergeant, for the benefit of Framlingham, Debenham, and Levington, in the county of Suffolk, and of Coggeshall, in the county of Essex. July 21.
59. An act for confirming a scheme of the Charity Commissioners for the management of the charities in the borough of Ruthin, in the county of Denbigh, comprising the Hospital of Christ and its subsidiary endowments, the Grammar School, Edward Lloyd's Foundation, and Bishop Goodman's Charity. July 21.
60. An act to confirm a certain provisional order under the General Police and Improvement (Scotland) Act, 1862, the 25 and 26 Vic., c. 101, relating to the burgh of Leith. July 21.
61. An act to prevent waywardens contracting for works within their own district. July 21.
62. An act to amend the law relating to the seizure of growing crops in Ireland. July 21.
63. An act to confirm certain provisional orders under the Land Drainage Act, 1861, the 24 and 25 Vic., c. 138. July 21.
64. An act to confirm certain provisional orders under the Local Government Act (1858), relating to the districts of Plymouth, Holywell, Llanelly, West Ham, Worthing, Abcraon, and Wallasey. July 21.
65. An act to consolidate and amend the acts relating to the Volunteer Force in Great Britain. July 21.
66. An act to amend the law relating to prisons in Ireland. July 21.
67. An act to enable provision to be made out of the funds of Greenwich Hospital for the widows of seamen and marines slain, killed, or drowned in the sea service of the Crown. July 21.
68. An act to extend the powers of the Act relating to the Main Drainage of the Metropolis. July 21.
69. An act to establish officers of the Royal Naval Reserve. July 21.
70. An act to facilitate the execution of public works in certain manufacturing districts, to authorise for that purpose advances of public money to a



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

limited amount upon security of local rates, and to shorten the period for the adoption of the Local Government Act, 1858, in certain cases. July 21.

71. An act for the preservation and improvement of Harwich Harbour. July 28.

72. An act for the further improvement of the Harbour of Howth. July 28.

73. An act to give further facilities to the holders of India Stock. July 28.

74. An act to enable her Majesty to declare gold coins to be issued from her Majesty's Branch Mint at Sydney, New South Wales, a legal tender for payments, and for other purposes relating thereto. July 28.

75. An act for the embankment of part of the River Thames, on the south side thereof, in the parish of St. Mary, Lambeth, and for other purposes. July 28.

76. An act to determine the time (viz., on publication) at which letters patent shall take effect in the colonies. July 28.

77. An act to amend the law relating to the jurisdiction of justices residing or being out of the country for which they are justices. July 28.

78. An act to amend the acts relating to the turnpike-roads in the neighbourhood of the metropolis, north of the River Thames. July 28. This act abolishes, after the 1st of July, 1864, various tollgates in the suburban districts of London.

79. An act for the amendment of the law relating to the religious instruction of prisoners in county and borough prisons in England and Scotland. July 28.

80. An act for providing a further sum towards defraying the expenses of constructing fortifications for the protection of the Royal Armaments and Dockyards and the ports of Dover and Portland, and of creating a central arsenal. July 28.

81. An act to amend, so far as regards advances for the purpose of the Harbours and Passing Tolls, &c., Act, 1861, certain of the acts authorising the advance of money out of the Consolidated Fund for carrying on public works and fisheries, and employment of the poor. July 28.

82. An act to empower Bishops of Welsh dioceses to facilitate the making provision for English services in certain parishes in Wales. July 28.

83. An act to define the boundaries of the colony of British Columbia, and to repeal the first section, and to continue till Dec. 31, 1863, the other sections of the 21 and 22 Vic., c. 99, an act to provide for the government of the said colony. July 28.

84. An act to confirm certain acts of Colonial Legislature. July 28.

85. An act to give relief (by allowing them to make solemn affirmations or declarations) to persons who may refuse or be unwilling, from alleged conscientious motives, to be sworn in criminal proceedings in Scotland. July 28.

86. An act to authorise the taking of harbour dues at Port Erin, in the Isle of Man, in order to provide a fund for the improvement of the harbour, and for other purposes. July 28.

87. An act to consolidate and amend the laws relating to Savings Banks. July 28.

88. An act to enable landed proprietors to construct works for the drainage and improvement of lands in Ireland. July 28.

89. An act for the further amendment of the law relating to the removal of poor persons, natives of Ireland, from England. July 28.

90. An act to provide for the registration of marriages in Ireland. July 28.

91. An act to extend for a further period the provisions of the Union Relief Aid Acts. July 28.

92. An act for consolidating in one act certain provisions frequently inserted in acts relating to railways. July 28.

93. An act for consolidating in one act certain provisions frequently inserted in acts relating to waterworks. July 28.

94. An act to amend the law relating to the repair of turnpike-roads in England, and to continue certain turnpike acts in Great Britain. July 28.

95. An act for continuing various expiring acts. July 28. This act continues, for periods varying for a year or two, certain acts relating to poor-laws, Irish poor-laws and county cess, ecclesiastical jurisdiction, diseases of sheep and cattle, episcopal and capitular estates, and lauded property improvement in Ireland.

96. An act to amend the Petty Sessions (Ireland) Act, 1851, and the Petty Sessions Clerks (Ireland) Act, 1858. July 28.

97. An act to enable cities, towns, and boroughs of 25,000 inhabitants and upwards to appoint stipendiary magistrates. July 28.

98. An act to confirm certain provisional orders made under the 14 and 15 Vic., c. 38, an Act to facilitate Arrangements for the Relief of the Turnpike Trusts. July 28.

99. An act to apply a sum out of the Consolidated Fund and the surplus of Ways and Means to the service of the year 1863, and to appropriate the supplies granted in the Sessions of Parliament. July 28.

100. An act to render owners of dogs in Scotland liable, in certain cases, for injuries done by their dogs to sheep and cattle. July 28.

101. An act to appoint additional commissioners for executing the acts for granting a land tax and other rates and taxes. July 28.

102. An act to reduce the duty on rum in certain cases. July 28.

103. An act to amend the law in certain cases of misappropriation by servants of the property of their masters. July 28. By this act, after Sept. 1, 1863, servants taking their masters' corn, &c., without authority, for the purpose of giving the same to their masters' horses, &c., are not to be deemed guilty of or proceeded against for felony, but shall be liable, on summary conviction, to a fine not exceeding £5, or imprisonment not exceeding three months. Justices may dismiss cases if deemed too trifling.

104. An act for confirming certain provisional orders made by the Board of Trade, under the General Pier and Harbour Act, 1861, relating to Blackpool, Deal and Walmer, Exmouth, Rosehearty, Ilfracombe, Instow, Bangor, Chatham, Bray, Dartmouth, and Nairn. July 28.

105. An act to remove certain restrictions on the negotiations of promissory notes and bills of exchange under a limited sum. July 28.

106. An act to further amend the law relating to the conveyance of land for charitable uses. July 28.

107. An act to indemnify such persons in the United Kingdom as have omitted to qualify themselves for offices and employments, and to extend the time limited for such purposes respectively. July 28.

108. An act to extend and make compulsory the practice of vaccination in Scotland. July 28.

109. An act for remedying certain defects in the law relating to the removal of prisoners in Scotland. July 28.

110. An act to amend the Lunacy Acts in relation to the building of asylums for pauper lunatics. July 28.

111. An act to amend the Naval Medical Supplemental Fund Society Winding-up Act, 1861. July 28.

112. An act to regulate the exercise of powers, under special acts, for the construction and maintenance of telegraphs. July 28.

113. An act to prohibit the sale and use of poisoned grain or seed. July 28.

114. An act to amend the laws relating to fisheries in Ireland. July 28.

115. An act to explain the Act for the Amendment of the law relative to Gratuitous Trustees in Scotland. July 28.

116. An act to provide for the appointment of navy prize agents, and respecting their duties and remuneration. July 28.

117. An act to amend the Nuisances Removal Act for England, 1855, with respect to the seizure of diseased and unwholesome meat. July 28.

118. An act for consolidating in one act certain provisions frequently inserted in acts relating to the constitution and management of companies incorporated for carrying on undertakings of a public nature. July 28.

119. An act to prevent false representations as to grants of medals or certificates made by the Commissioners for the Exhibitions of 1851 and 1862. July 28.

120. An act for the augmentations of certain benefices, the right of representation to which is vested in the Lord Chancellor. July 28.

121. An act to establish the validity of acts performed in her Majesty's possessions abroad by certain clergymen ordained in foreign parts, and to extend the powers of colonial legislatures with respect to such clergymen. July 28.

122. An act to enable her Majesty in Council to make alterations in the circuits of the Judges. July 28.

123. An act to amend the law relating to district parochial churches in Ireland. July 28.

124. An act for the more effectual condensation of muriatic acid gas in alkalis. July 28.

125. An act for promoting the revision of the statute law, by repealing certain enactments which have ceased to be in force or have become unnecessary. July 28.

\*\*\* There are 238 local and personal acts declared public, principally relating to railways, roads, gas, and waterworks. Of these, c. 46 authorises the construction of a new public road from Battersea to Clapham, and c. 62 authorises the Corporation of London to rebuild Blackfriars Bridge. There are eight private acts relating to the settlement of certain lands and estates. Of these the seventh relates to the estates annexed to the earldom of Arundel, and the eighth to estates devised by the late George O'Brien, Earl of Egremont.

Under a new Act innkeepers, hotelkeepers, licensed victuallers, and others are not to be liable to a greater amount than £30 for the property of a guest, except where such goods were stolen or injured through wilful neglect, or except where such goods were expressly deposited for safe custody. An innkeeper is bound to receive goods of a guest for safe custody.

Under the new Inland Revenue Act an alteration has been made with regard to excise licenses. Instead of taking out several licenses by one person, several trades may now be carried on by one license on payment of the amount of the several duties.

REGISTRATION OF BIRTHS, MARRIAGES, AND DEATHS.—FOR ENGLAND: an infant should be registered within six weeks after its birth. No fee is payable; but after forty-two days, a fee of 7s. 6d. is chargeable. Notice should be given of deaths to the district registrar. Let this be done early, that a certificate may be had to give to the minister who performs the funeral service.—FOR SCOTLAND: an infant must be registered within twenty-one days after its birth. A marriage must be registered within three days after the occurrence. A death must be registered within eight days after the event.

## POST OFFICE REGULATIONS.

LETTERS not exceeding $\frac{1}{2}$ oz., if prepaid	..	..	..	..	1d.
" " 1 oz. "	..	..	..	..	2d.
" " 2 oz. "	..	..	..	..	4d.
Every additional oz.	..	..	..	..	2d.

Double rates if not prepaid.

BOOK PARCELS, open at the ends, may contain any quantity of paper, either printed, written, or plain (not letters or any communication of that nature), not exceeding 24 inches any way—to be prepaid in stamps at these rates, viz. :—

Not exceeding 4 oz.	..	..	..	1d.
4 oz. to 8 oz.	..	..	..	2d.
8 oz. to 16 oz.	..	..	..	4d.

And so on, 2d. for every additional 8 oz.

NEWSPAPERS and other periodicals issued at not exceeding thirty-one days' interval, and having the impressed stamp of 1d. 1d. or 2d., according as they contain two, three, or four sheets—having title and date on the top of every page, open at the ends, with stamp exposed to view—nothing beyond the address written on the contents or cover—and posted within fifteen days of date of issue, are conveyed free by post—but within the London district, must have one postage stamp. A registration fee of sixpence paid in stamps secures greater care in the conveyance of a packet and a greater certainty in tracing it; but the Post Office is not responsible for its value.

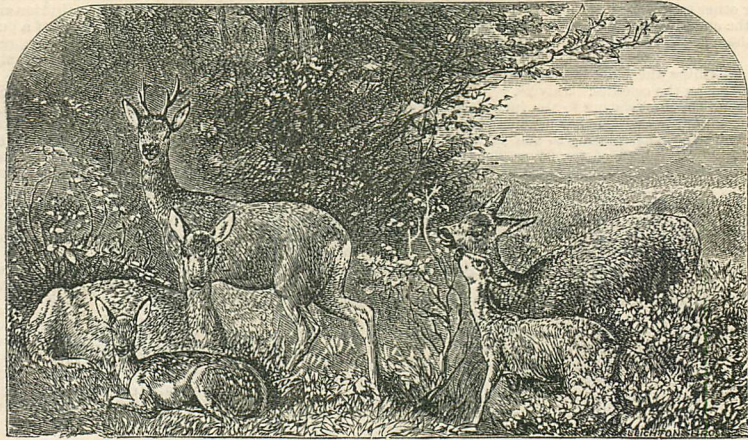
MONEY ORDERS are issued at all principal post offices, the charge being 3d. not exceeding £2, and 6d. from £2 to £5; the holder of the order must be able to give the initials and surname of the sender.

No postmaster is bound to give or demand change, or to weigh any packet, except foreign letters about to be paid in money.

## THE FUNDS.

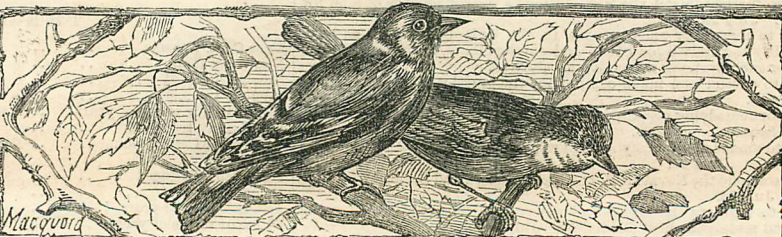
3 per Cent. Consols.	..	..	..	Dividends paid	
New 5 per Cent.	..	..	..	daily	
New £3 10, 1854	..	..	..	9 to 3	
New £2 10	..	..	..	8th January	
Annuities for terms of years	..	..	..	and	
East India Stock	..	..	..	8th July.	
India 5 per Cent. Stock	..	..	..		
3 per Cent. Reduced	..	..	..		
New 3 per Cent.	..	..	..	8th April	
Annuities for 30 years, 1855	..	..	..	and	
Ditto for terms of years	..	..	..	14th October.	
Bank Stock	..	..	..		





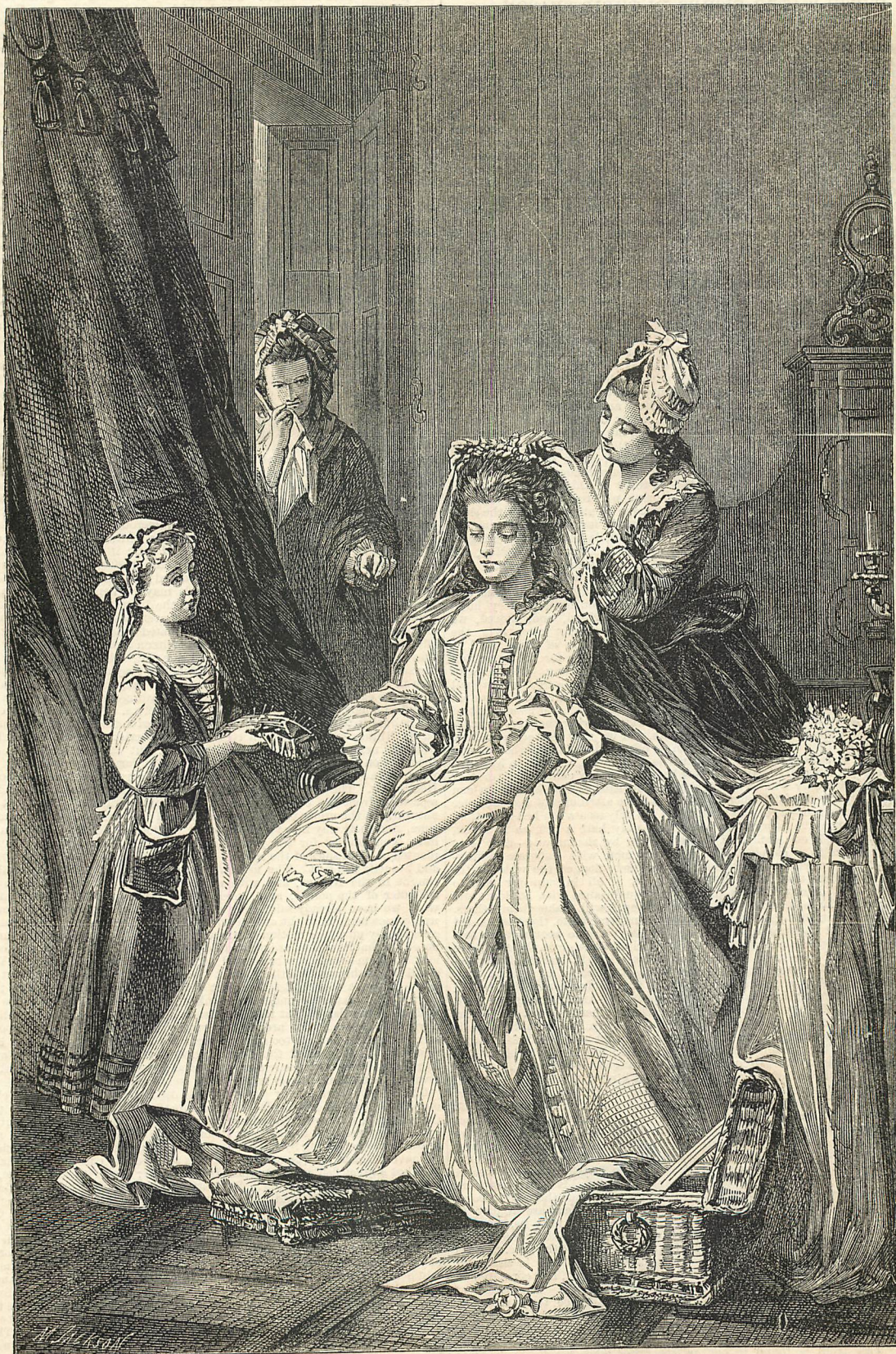
ROE-DEER.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.				MOON.			HIGH WATER AT			
			Rises.	Sets.	Rises.	Sets.	Rises.	Sets.	Age	London Bridge.	Liverpool Dock.	Morn.	Aftern.
			U. M. H. M.	U. M. H. M.	Morn.	Aftern.	Dys			Morn.	Aftern.	Morn.	Aftern.
1	W	No real night	3 50	8 5	2 2	4 52	27	11 20	11 52	8 30	8 58		
2	Th	Gordon Riots, 1780	3 50	8 6	2 34	6 2	28	—	0 20	9 26	9 52		
3	F	Viceroy of Egypt in England, 1862	3 49	8 7	3 13	7 8	29	0 48	1 14	10 16	10 39		
4	S	Social Science Conference, 1892	3 48	8 8	3 57	8 5	30	1 38	2 1	11 3	11 24		
5	S	2ND SUN. AFT. TRIN.	3 48	8 9	4 48	8 55	1	2 25	2 46	11 42	—		
6	M	Cavour died, 1861	3 47	8 10	5 45	9 34	2	3 4	3 25	0 3	0 22		
7	Tu	Reform Bill passed, 1832	3 47	8 11	6 46	10 9	3	3 44	4 2	0 40	0 59		
8	W	Length of day 16h. 26m.	3 46	8 12	7 50	10 35	4	4 21	4 38	1 16	1 36		
9	Th	Bishops sent to Tower, 1688	3 46	8 13	8 54	11 0	5	4 58	5 16	1 54	2 14		
10	F	Crystal Palace opened, 1854	3 45	8 13	9 57	11 22	6	5 36	5 54	2 32	2 54		
11	S	St. Barnabas	3 45	8 14	11 0	11 43	7	6 16	6 38	3 16	3 37		
12	S	3RD SUN. AFT. TRIN.	3 45	8 15	Aftern.	Mora.	D	6 59	7 22	4 0	4 25		
13	M	Trinity Term ends	3 44	8 15	1 10	0 3	9	7 47	8 17	4 55	5 27		
14	Tu	Battle of Marengo, 1809	3 44	8 16	2 16	0 24	10	8 49	9 21	5 59	6 29		
15	W	Length of day 16h. 37m.	3 44	8 16	3 25	0 48	11	9 51	10 22	7 0	7 31		
16	Th	Earl Canning died, 1862	3 44	8 17	4 34	1 15	12	10 53	11 24	8 2	8 32		
17	F	D. of Marlborough d., 1722	3 44	8 17	5 42	1 48	13	11 54	—	8 58	9 23		
18	S	Battle of Waterloo, 1815	3 44	8 18	6 48	2 30	14	0 20	0 45	9 47	10 12		
19	S	4TH SUN. AFT. TRIN.	3 44	8 18	7 46	3 21	15	1 9	1 34	10 34	10 55		
20	M	Acc. of Queen Vict.	3 44	8 18	8 35	4 24	16	1 56	2 17	11 19	11 42		
21	Tu	Proclamation. Cambridge commencement	3 44	8 18	9 19	5 36	17	2 41	3 4	—	0 6		
22	W	Income Tax comm., 1842	3 45	8 19	9 53	6 53	18	3 28	3 50	0 28	0 50		
23	Th	Hampden died, 1643	3 45	8 19	10 24	8 13	19	4 12	4 35	1 13	1 35		
24	F	St. John Baptist	3 45	8 19	10 49	9 34	20	4 57	5 23	2 1	2 27		
25	S	(Midsummer Day)	3 46	8 19	11 14	10 53	21	5 49	6 15	2 53	3 18		
26	S	5TH SUN. AFT. TRIN.	3 46	8 19	11 40	Aftern.	22	6 40	7 8	3 46	4 14		
27	M	Buenos Ayres taken, 1805	3 47	8 19	Morn.	1 27	23	7 36	8 7	4 45	5 15		
28	Tu	Coronation of Q. Victoria, 1838	3 47	8 18	0 7	2 40	24	8 37	9 13	5 51	6 26		
29	W	St. Peter	3 48	8 18	0 37	3 51	25	9 48	10 21	6 59	7 34		
30	Th	No real night	3 48	8 18	1 12	4 58	26	10 56	11 30	8 8	8 40		



T. R. Macquard





PREPARING FOR THE WEDDING ("SONG OF THE BELL," BY SCHILLER).—FROM "THE ILLUSTRATED LONDON NEWS."



## FRESH-WATER FISHES IN THEIR SEASON.

MAY AND JUNE.

THE salmon family embraces all kind of trout and also some of the curious fishes peculiar to Scotland—as the powan and the vendace, likewise the grayling and hebridal argentine, and, of course, the exquisite fish taken in Lochleven, as well as the pollan of Ireland and the great eriox of the Tweed; indeed, of all our fresh-water fishes, the one that is most plentiful and the one that is most worthy of notice by anglers is the trout! It can be fished for with a crooked pin in the most tiny stream, or be captured by elaborate apparatus on the great lochs of Scotland. There are so many varieties of it as to suit all tastes; there are well-flavoured burn trout, not larger than a small herring, and there are the lake-giants that, when placed in the scales will pull down a 20 lb. weight with the greatest ease. The mountain streams or lochs of Scotland, and the placid and picturesque lakes of Cumberland and Westmoreland, are the paradise of anglers. For trout fishing we would name Scotland as the king of countries. It is true the railway and other modes of conveyance have carried of late years a perfect army of anglers into its most picturesque nooks and corners, and therefore fish are not so plentiful as they were thirty years ago, in the old coaching days, when we saw a washing-tub filled in the space of half an hour with lovely half-pound trout from a few pools on a burn near Moffat; but there are still plenty of trout. Scotland is still the “land of the mountain and the flood,” and there is abundance of water, for the lochs and streams of that country are numberless. One county alone (Sutherland) contains a thousand lochs, and one parish in that county has itself two hundred sheets of water, all of them abounding with the finest trout, affording rich sport to the angler, and rewarding those who persevere with rich baskets of fish. At the same time the physical exertion undergone by the angler flushes the cheek with the hue of health, and imparts to the human frame a strength and elasticity known only to those who are familiar with country scenes and pure air. May and the May-fly are said to inaugurate the angler's year, for although a few of the keenest sportsmen keep on angling all the year round, most of them lay down their rod about the end of October, and do not think of resuming it till they can smell the sweet fragrance of the advancing summer. Although few of us busy Englishmen can forestall the regular holiday period of August and September, yet there are some who manage to run to the country at this charming season, when the days are not too hot for enjoyment nor too short for country industry. In August and September the landscape is preparing for the sleep of winter, whilst in May it is being robbed by nature for the fêtes of summer, and, despite the sneers of some poets and naturalists, is new and charming in the highest degree. Town-living people should visit the country in May, and see and feel the charms of its scenery in all its freshness and fragrance.

“What,” it has been asked, “is a Scottish stream without its trout?” Doubtless, if a river has no trout it is without one of its greatest charms, and it is pleasant to record that, except in the neighbourhood of very large seats of population, trout are still plentiful in Scotland, and, indeed, we have heard of a noted angler who can fill his basket even near the large cities; but then it is given to him to be a man of great skill in his vocation, and, moreover, capable of instructing others, for he has written a work that has revolutionised the art and practice of fishing. The place to try an angler is a fine border stream or a grand Highland loch; but we shall not at present presume to give minute directions as to how to angle; for an angler, like a poet, must be born: he can scarcely be bred; and no amount of book lore will confer upon a man the magic power of luring the wary troutlet from its crystalline home. The best anglers, and we may also add poachers, are the gypsies. They can raise a fish when no other class of human beings will move them. If encamped near a stream the gipsy band are sure to have fish as a portion of their daily food; and how beautifully they can broil a trout or boil a grilse those only who have had the good fortune to dine with them can say. Your gipsy is the best fisher we know, and the attributes of a good angler are like those of a poet—they can be felt, but are only seen when he is in action. Have we not seen the veteran Dryden, with only half a rod, so to speak, taking out his fish on some fine border stream by the minute—that is to say, eight dozen in a couple of hours; while men with elaborate fishing-machines, fitted up with costly tackle, industriously flogged the water without obtaining more than a distant nibble. It is all in vain for men to fancy that a suit of new Tweeds and a fair acquaintance with Stoddart and Stewart and a large amount of angling “slang,” will make them fishers. There is more than that required. Besides the natural taste, there is wanted a large amount of patience and skill; and the best place to acquire these best virtues of the angler is among the brawling hill streams or on the expansive bosom of some of the great Cumberland lakes while in search of the delicious char. A congregation of fishes brought together by means of a scatter of food, and then taking advantage of the piscine convention to kill and slay, is no more angling than a battle is sport. An American that we have read about has a fish manufactory in Connecticut, where he can shovel the animals out by the hundred; but then he does not go in for sport, his idea is money. To come back, however, to the trout; that particular fish is the stock-in-trade of the streams and lochs of Scotland; but it may be hinted, for the benefit of strangers, that in coming to fish a strange water they ought to consult with the “natives” of the district as to what kind of fly they ought to use, and what particular pools or runs of a river they should cast their lines over. Many is the time we have flogged away at a hole that was troutless, and oft have we anathematised our bad luck through not knowing what kind of insect would please the dainty palates of some of our refined and pinky trout. There are a thousand thousand streams in this Great Britain, Ireland, and Wales where we can fish; but it is not our purpose to dogmatise on the best whereabouts to send the angler. There are the Tay and the Tweed, with their wealth of affluents; and there are rivers further away, so that on his second day from London an active angler may be whipping the Ness; and then there is the Dove, the Severn, and, for stay-at-home fellows, the Thames. There are trout to be had in the Thames, and from what Frank Dr. Buckland tells us, we may believe that in a year or two that stream will contain finer trout than any river in all the three kingdoms; but we fancy, for the monsters of the race, that we must still resort to Scotland. In Loch Awe, for instance, there is the great lake trout, which, combined with the beauty of the scenery, has conspired to draw to the neighbourhood some of our best anglers. The trout of Loch Awe are described as being very ferocious, hence their scientific name of *Salmo ferox*. This trout grows to a large size, individuals weighing more than twenty pounds having been frequently caught. Its flavour, however, is against it: the flesh is coarse, and of a bad colour. This trout is found in one or two other lakes besides Loch Awe; in fact, it is found in most of the large and deep lochs of Scotland. It was discovered scientifically about the end of the last century by a Glasgow merchant, who was proud of sending samples of it to his friends, as a proof of

his prowess with the angle. The usual way of taking the great lake trout is to engage a boat to fish from, and which must be rowed gently through the water. The proper bait is a small trout, with at least half a dozen hooks projecting from it; and the tackle requires to be prodigiously strong, as the fish is a powerful one, although not quite so active as some others of the trout kind, but it roves about in these deep waters, enacting the part of the bully and the cannibal to all lesser creatures, driving before it even the hungry pike. Persons residing near the great lochs capture these trout by setting night-lines for them. As has been already mentioned, they are exceedingly voracious, and have been known to be dragged for long distances, and then, having lost their hold of the bait, have seized it again with the greatest avidity, and so been finally captured. Another speciality among Scottish fresh-water fishes is the Lochleven trout, which is peculiar to this one lake. It is near Kinross, in Fife, and in which is the only fresh-water fish which is commercially valuable, always, of course, excepting the andromadous salmon. Little has or can be said by naturalists about this fish, except that it is a “speciality” among trouts. Some very learned people, with whom we take leave to differ, consider it to be identical with *Salmo fario*. The trout of Lochleven is marvellous; never in any of our piscatorial wanderings have we found its equal in colour, flavour, or shape. It has been compared with the *Fario lenanus* of the Lake of Geneva, and it must be allowed that there is wonderful little difference between these two fishes. The Lochleven trout has never been successfully transplanted to any other water, although the experiment has been more than once tried; in fact, it would be impossible to acclimatise this trout, for, in our opinion, it is the feeding-ground which gives it its rich colour and fine flavour, and, on account of the partial drainage of the loch, the trout are said to be deteriorating in quality. There can be no doubt that fish, like cattle, are subject to the influences of food and locality. Where a trout stream flows through a rich and fertile district of country, with abundant drainage, the trout are usually well conditioned and large, with an unexceptionable flavour; on the contrary, when the district through which the stream flows is poor and rocky, with no rich drains carrying food into the stream, the fish will, as a matter of course, be lanky and flavourless; they may be numerous, but they will be of small size. This is well exemplified in the case of the Lochfyne herrings, which are exquisite in flavour when compared with those taken in such open parts of the sea as Wick Bay. The difference is ascribed to the fact of Lochfyne being so narrow as to be quite overshadowed with overhanging banks, and consequently affording a greater abundance of richer kinds of food than a large expanse of open sea can yield. The land-locked bays of Scotland afford richer-flavoured fish than the wider expanses of water, where the finny tribe, it may be, are much more numerous, but have not the same variety of food. Nothing is so certain as this, that a given expanse of water will only feed a certain number of fish; if there be more than the feeding-ground will support, they will be small in size, and if the trout again be very large ones, we may take it for granted that there is less than the proper quantity. But, of course, private ponds may be kept up to a fine pitch by feeding the fish. We need not go over all the different varieties of fresh-water trout seriatim, for their name is legion, and every book on angling contains lists of those that are peculiar to the districts treated upon. It is surprising that no effort has been made to cultivate our great lochs on the artificial plan now coming into prominent notice. Lochleven trout, for which the demand greatly exceeds the supply, might be much more plentiful than they are at present, and every loch in the country might be made to yield a large supply of palatable fish food; the eggs might be nursed to life in breeding-boxes, and the fish be protected in ponds, till able to take care of themselves. As an instance of what can be done in trout-feeding, we may briefly describe the pond at Wolfsbrunnen, on the Rhine, which is worth seeing if it still exist; and the landlord of the little inn near at hand will not only show it, but capture and fry a dish of the trout on the shortest notice. This pond is formed by damming up the waters of a small affluent of the Neckar, near the ruins of the ancient castle of Heidelberg. The bed of the rivulet has been divided into three ponds, each separated from the other by means of an iron grating. The trout spawn naturally in the upper part of the water, and the young fish, in the course of time, find their way into the first pond. Various apparatus of wooden boards have been devised for the protection of the fry, and large trees have been planted on both sides of the ravine, which throw a fine shadow over the water and beautify the spot. The fish thus protected are daily fed with small fishes caught in the Neckar, and with other substances thrown to them by the custodian of the ponds; and under this treatment, and in corroboration of what we have already said, they speedily attain a large size—six pounds in weight not being thought at all extraordinary. The water in the ponds being exceedingly pure, the motion of the trout can be observed, and it is curious to note their habits; they are much like those of the human race who come to look at them—some are brisk and active, some lazy and indolent. When a small fish is thrown into the pond it does not fail to the nearest trout; some large fellow, a monopolist, will dart with lightning speed and seize it, and, conveying it defiantly under the bank of the pond, or beneath one of the sheltering boards, will eat it at its leisure. This suite of ponds is well worth a visit by persons who are, at any rate, “doing” Heidelberg. A pond for salt-water fish, but on too small a scale for breeding purposes, may be here referred to. It is called the Logan fishpond, and is situated in Wigtownshire. It communicates with the sea and is used as a store-pond, to admit of fish being always procured, no matter whether the weather be coarse or fine.

The scene chosen by our Artist for his drawing of the trout and charr is one of the English lakes. It would be superfluous to descant at the present day on the beauties of Windermere, or the general lake scenery of Cumberland and Westmoreland; it has been described by hundreds of tourists, and its praises have been sung by its own poets—the lake poets! It is with its fish that we have business, and honesty compels us to give the charr a bad character. It is not a great fish, so far as sport is concerned; nor is it great in size, or, in our opinion, rich in flavour. But potted charr is a rare breakfast delicacy. This fish, which is said by Agassiz to be identical with the ombre chevalier of Switzerland, is rarely found to weigh more than a pound; specimens are sometimes found exceeding that weight, but they are scarce. The charr is found to be pretty general in its distribution, and is found in many of the Scottish lochs. It spawns about the end of the year, some of the varieties depositing their eggs in the shallow parts of the lake, while others proceed a short way up some of the tributary streams. In November great shoals of charr may be seen in the Rivers Rothay and Drethay, particularly the latter, with the view of spawning. The charr, we are told by Yarrell, afford but scant amusement to the angler, and are always to be found in the deepest parts of the water in the lochs which they inhabit. “The best way to capture them is to trail a very long line after a boat, using a minnow for a bait, with a large bullet of lead two or three feet above the bait to sink it deep in the water; by this mode a few charr may be taken in the beginning of summer, at which period they are in the height of perfection, both in colour and flavour.”



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

## LIST OF BANKERS.

### LONDON.

Agra and United Service Bank, 27, Cannon-street, E.C.  
 Alliance Bank of London and Liverpool, 5, Lothbury, E.C.  
 Bank of Australasia, 4, Threadneedle-street, E.C.  
 Bank of British North America, 7, St. Helen's-place, E.C.  
 Bank of England, Threadneedle-street, E.C., and Burlington-gardens, W.  
 Bank of Egypt, 26, Old Broad-street, E.C.  
 Bank of Hindustan, Cornhill, E.C.  
 Bank of London, 52, Threadneedle-street, E.C., and 450, West Strand, W.C.  
 Bank of New South Wales, 37, Cannon-street, E.C.  
 Bank of Victoria, 3, Threadneedle-street, E.C.  
 Barclay, Bevan, and Co., 54, Lombard-street, E.C.  
 Barnett, Hoares, and Co., 62, Lombard-street, E.C.  
 Biddulph, Cocks, and Co., 43, Charing-cross, S.W.  
 Biggerstaff, W. and J., 63, West Smithfield, E.C., and 6, Metropolitan Cattle Market, N.W.  
 Bosanquet, Franks, and Co., 73, Lombard-street, E.C.  
 Brown, Janson, and Co., 22, Abchurch-lane, E.C.  
 City Bank, Threadneedle-street, corner of Finch-lane, E.C.  
 Call, Marten, and Co., 25, Old Bond-street, W.  
 Challis and Son, 37, West Smithfield, E.C., and 12, Metropolitan Cattle Market, N.W.  
 Chartered Mercantile Bank of India, London, and China, 52, Threadneedle-street, E.C.  
 Child and Co., 1, Fleet-street, E.C.  
 Colonial Bank, 13, Bishopsgate-street Within, E.C.  
 Commercial Bank of India, 4, Princes-street, E.C.  
 Commercial Banking Company of Sydney, 35, Cornhill, E.C.  
 Coutts and Co., 59, Strand, W.C.  
 Cunliffe, Roger, Son, and Co., 24, Bucklersbury, E.C.  
 Cunliffes and Co., 24, Lombard-street, E.C.  
 Curries and Co., 29, Cornhill, E.C.  
 Chartered Bank of India, Australia, and China, 20, Threadneedle-street, E.C.  
 Dimsdale, Drewett, and Co., 50, Cornhill, E.C.  
 Drummond, Messrs., 49, Charing-cross, S.W.  
 English, Scottish, and Australian Chartered Bank, 73, Cornhill, E.C.  
 Fullers, Banbury, and Co., 77, Lombard-street, E.C.  
 Glyn, Mills, and Co., 67, Lombard-street, E.C.  
 Goslings and Sharpe, 19, Fleet-street, E.C.  
 Hanburys and Lloyds, 60, Lombard-street, E.C.  
 Hankey, Messrs., 7, Fenchurch-street, E.C.  
 Herries, Farquhar, and Co., 16, St. James-street, S.W.  
 Heywood, Kennards, and Co., 4, Lombard-street, E.C.  
 Hill and Sons, 17, West Smithfield, E.C., and 2, Metropolitan Cattle Market, N.W.  
 Hoares, Messrs., 37, Fleet-street, E.C.  
 Hopkinson and Co., 3, Regent-street, S.W.  
 Imperial Bank, 6, Lothbury, E.C.  
 Ionian Bank, 6, Great Winchester-street, City, E.C.  
 Johnston, H. and L., and Co., 28, Cannon-street, E.C.  
 Jones, Loyd, and Co., 43, Lothbury, E.C.  
 Lacy and Son, 60, West Smithfield, E.C., and 11, Metropolitan Cattle Market, N.W.  
 London Chartered Bank of Australia, 17, Cannon-street, E.C.  
 London and County Bank, 21, Lombard-street, E.C.; Albert-gate, S.W.; 66, Berkeley-place, Edgware-road, W.; 441, Oxford-street, W.; 21, Hanover-square, W.; 19, High-street, Islington, N.; High-street, Kensington, W.; James-street, Covent Garden, W.C.; Bank-buildings, 187, Shoreditch, N.E., and Westbourne Grove, Bayswater, W.  
 London Joint Stock Bank, 5, Princes-street, Mansion House, E.C., and 69, Pall-mall, S.W.  
 London and Middlesex Bank, Cornhill, E.C., and at St. Martin's-lane, W.C.  
 London and Westminster, Lothbury, E.C.; 1, St. James's-square, S.W.; 213, High-Holborn, W.C.; 3, Wellington-street, Borough, S.E.; 87, White-chapel, High-street, E.; 4, Stratford-place, W., and 217, Strand, W.C.  
 London and South African Bank, 10, King William-street, E.C.  
 Martin and Co., 68, Lombard-street, E.C.  
 Masterman, Peters, and Co., 35, Nicholas-lane, E.C.  
 Metropolitan and Provincial Bank, 75, Cornhill, E.C.  
 National Bank, 13, Old Broad-street, E.C., and Gloucester-gardens, Bayswater, W.  
 National Provincial Bank of England, 112, Bishopsgate-street Within, E.C.  
 North Western Bank of India, Gresham House, Old Broad-street, E.C.  
 Oriental Bank Corporation, South Sea House, E.C.  
 Olding, Osborne, and Co., 29, Clements-lane, E.C.  
 Ottoman Bank, Bank-buildings, Princes-street, E.C.  
 Praeds and Co., 189, Fleet-street, E.C.  
 Prescott, Grote, and Co., 62, Threadneedle-street, E.C.  
 Price, Marryatt, and Co., 3, King William-street, E.C.  
 Provincial Bank of Ireland, 42, Old Broad-street, E.C.  
 Puget, Bainbridges, and Co., 12, St. Paul's Churchyard, E.C.  
 Ransom, Bouverie, and Co., 1, Pall-mall East, S.W.  
 Roberts, Lubbock, and Co., 15, Lombard-street, E.C.  
 Scott and Co., 1, Cavendish-square, W.  
 Smith, Elder, and Co., 45, Pall-mall, S.W.  
 Smith, Payne, and Smiths, 1, Lombard-street, E.C.  
 South Australian Banking Company, 54, Old Broad-street, E.C.  
 Spielman, A., and Co., 79, Lombard-street, E.C.  
 Spooner, Attwoods, and Co., 27, Gracechurch-street, E.C.  
 Stevenson, Salt, and Sons, 20, Lombard-street, E.C.  
 Stride, J. and W. S., 41, West Smithfield, E.C., and 8, Metropolitan Cattle Market, N.W.  
 Twining and Co., 215, Strand, W.C.  
 Union Bank of Australia, 38, Old Broad-street, E.C.  
 Union Bank of London, 2, Princes-street, Mansion House, E.C.; Argyll-place, Regent-street, W.; 4, Pall-mall East, S.W., and 200, Fleet-street, E.C.  
 Williams, Deacon, and Co., 20, Birch-lane, E.C.  
 Willis, Percival, and Co., 76, Lombard-street, E.C.

### LIVERPOOL.

#### DRAWN ON IN LONDON.

Moss and Co. .. .. . Barclay and Co.  
 Israel Bamed and Co. .. .. . Prescott and Co.  
 Heywood, Sons' and Co. .. .. . Heywood and Co.  
 J. E. Kneeshaw .. .. . Curries and Co.  
 Leyland and Bullins .. .. . Masterman and Co.

#### DRAWN ON IN LONDON.

Bank of Liverpool .. .. . Glyn and Co.  
 Branch Bank of England .. .. . Bank of England.  
 Liverpool Commercial Banking Company .. .. . Williams and Co.  
 Manchester and Liverpool Discount Bank, Com. .. .. . Smith and Co.  
 North and South Wales Bank .. .. . London and Westminster Bank.  
 Royal Bank of Liverpool .. .. . London Joint Stock Bank.  
 Edwin L. Samuel .. .. . { Union Bank of London.  
 .. .. . Samuel and Co.  
 .. .. . Bank of London.  
 .. .. . Barnett and Co.  
 Liverpool Union Bank .. .. .

### MANCHESTER.

James Sewell .. .. . Union Bank of London.  
 Bank of Manchester .. .. . London Joint Stock Bank.  
 Cunliffes, Brooks, and Co. .. .. . Cunliffes and Co.  
 Heywood and Co. .. .. . Masterman and Co.  
 Loyd, Entwistle, and Co. .. .. . J. Loyd and Co.  
 Branch Bank of England .. .. . Bank of England.  
 Manchester and Liverpool Disc. Bank, Comp. .. .. . Smith and Co.  
 Manchester and Salford Bank .. .. . Williams and Co.  
 National Provincial Bank of England .. .. . London and Westminster Bank.  
 Union Bank of Manchester .. .. . Glyn and Co.

### BIRMINGHAM.

Lloyds and Co. .. .. . Hanburys and Lloyds.  
 Attwoods and Co. .. .. . Spooner and Co.  
 J. Lewis Moillet and Co. .. .. . Roberts and Co.  
 Birmingham Banking Company .. .. . { J. Loyd and Co., and Glyn  
 .. .. . and Co.  
 Birmingham and Midland Bank .. .. . Union Bank of London.  
 Birmingham Town and District Banking .. .. . { Barclay and Co., and Bank of  
 .. .. . Company .. .. . London.  
 Branch Bank of England .. .. . Bank of England.  
 National Provincial Bank of England .. .. . London and Westminster Bank.

### DUBLIN.

Ball and Co. .. .. . Ransom and Co.  
 Boyle, Low, Pim, and Co. .. .. . Williams and Co.  
 Robert Gray and Co. .. .. . Glyn and Co.  
 J. B. Kennedy and Co. .. .. . Glyn and Co.  
 Provincial Bank of Ireland .. .. . Spooner and Co.  
 D. La Touch and Co. .. .. . Puget and Co.  
 Hibernian Joint Stock Banking Company .. .. . Barnett and Co.  
 Bank of Ireland .. .. . Coutts and Co., Bk. of England.  
 National Bank .. .. . Head Office, 13, Old Broad-st.  
 Royal Bank of Ireland .. .. . London and Westminster Bank.  
 Ulster Banking Company .. .. . { London and Westminster Bank.  
 .. .. . Prescott and Co.

### EDINBURGH.

Bank of Scotland .. .. . { Coutts and Co., Smith and Co.,  
 .. .. . and Bank of England.  
 City of Glasgow Bank .. .. . London Joint-Stock Bank.  
 Commercial Bank of Scotland .. .. . { J. Loyd and Co., and Coutts  
 .. .. . and Co.  
 British Linen Company .. .. . { Smith and Co., and Bank of  
 .. .. . England.  
 Union Bank of Scotland .. .. . { Barclay and Co., Coutts and  
 .. .. . Co., and Glyn and Co.  
 Clydesdale Banking Company .. .. . { Barnett and Co.  
 .. .. . London and Westminster Bank.  
 Royal Bank of Scotland .. .. . { Bank of England and Coutts  
 .. .. . and Co.  
 .. .. . Union Bank of London,  
 .. .. . Coutts and Co., and Glyn  
 .. .. . and Co.

### GLASGOW.

British Linen Company .. .. . Smith, Payne and Co.  
 City of Glasgow Bank .. .. . London Joint Stock Bank.  
 Clydesdale Bank Company .. .. . London and Westminster Bank.  
 National Bank of Scotland .. .. . Glyn and Co.  
 Royal Bank of Scotland .. .. . { Coutts and Co., and Bank of  
 .. .. . England.  
 Union Bank of Scotland .. .. . Glyn and Co.  
 North British Bank .. .. . Union Bank of London.

### BRISTOL.

West of England and South Wales Disc. Bank .. .. . Glyn and Co.  
 Sir William Miles and Co. .. .. . Barnett and Co.  
 Baillie, Cave, and Co. .. .. . Prescott and Co.  
 Stuckey's Banking Company .. .. . Roberts and Co.  
 National Provincial Bank of England .. .. . London and Westminster Bank.  
 Branch Bank of England .. .. . Bank of England.

### BRADFORD.

Bradford Banking Company .. .. . J. Loyd and  
 Harris and Co. .. .. . Barnett and Co.  
 Bradford Commercial Banking Company .. .. . Glyn and Co.  
 Yorkshire Banking Company .. .. . Williams and Co.

### LEEDS.

Beckett and Co. .. .. . Glyn and Co.  
 Wm. Williams, Brown, and Co. .. .. . Brown, Jansen, and Co.  
 Leeds Banking Company .. .. . Smith and Co.  
 Branch Bank of England .. .. . Bank of England.  
 Yorkshire Banking Company .. .. . Williams and Co.

### HULL.

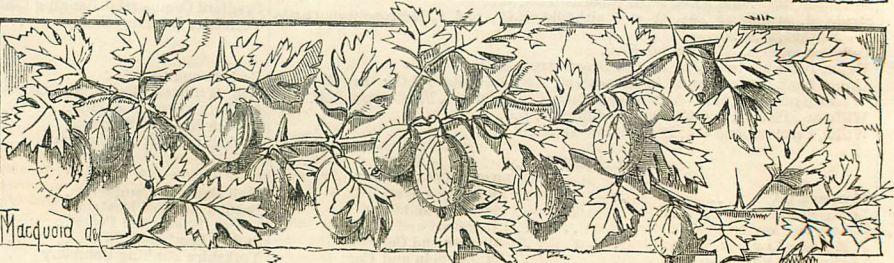
Hull Banking Company .. .. . Barclay and Co.  
 Branch Bank of England .. .. . Bank of England.  
 Peases, Hoare, and Pease .. .. . Glyn and Co.  
 Smith, Brothers, and Co. .. .. . Smith and Co.  
 Yorkshire Banking Company .. .. . Williams and Co.





OTTER.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT			
			Rises.	Sets.	Age	Rises.	Sets.	Age	London Bridge.	Liverpool Dock.		
			H. M.	H. M.		Morn.	Aftern.	Dys	Morn.	Aftern.	Morn.	Aftern.
1	F	Princess Alice married, 1862	3 49	8 18	1 54	5 58	27	—	0 2	9 10	9 36	
2	S	Visitn. of B. V. M.	3 50	8 17	2 41	6 50	28	0 32	0 58	10 2	10 16	
3	S	6TH SUN. APT. TRIN.	3 50	8 17	3 36	7 33	29	1 24	1 48	10 48	11 9	
4	M	Liverpool and Birmingham Railway opened, 1837	3 51	8 17	4 35	8 9	●	2 10	2 31	11 30	11 49	
5	Tu	Oxford Act	3 52	8 16	5 37	8 38	2	2 52	3 11	—	0 7	
6	W	Length of day 16h. 23m.	3 53	8 16	6 41	9 4	3	3 29	3 46	0 24	0 40	
7	Th	Peace of Tilsit, 1807	3 54	8 15	7 45	9 28	4	4 2	4 20	0 58	1 15	
8	F	Burke died, 1797	3 55	8 14	8 48	9 49	5	4 37	4 54	1 32	1 49	
9	S	Oxford Trinity Term ends	3 56	8 14	9 52	10 9	6	5 11	5 28	2 6	2 23	
10	S	7TH SUN. APT. TRIN.	3 57	8 13	10 56	10 29	7	5 45	6 4	2 42	3 1	
11	M	Peace of Villafranca, 1859	3 58	8 12	Aftern.	10 52	8	6 23	6 44	3 22	3 43	
12	Tu	Erasmus died, 1536	3 59	8 11	1 6	11 17	9	7 5	7 27	4 5	4 30	
13	W	King Leopold elected, 1831	4 0	8 10	2 14	11 45	10	7 52	8 20	4 58	5 33	
14	Th	Duke of Orleans killed, 1842	4 1	8 9	3 22	Morn.	11	8 55	9 30	6 8	6 42	
15	F	St. Swithin	4 2	8 8	4 28	0 23	12	10 4	10 38	7 16	7 52	
16	S	Massacre of Cawnpore, 1857	4 3	8 7	5 29	1 7	13	11 14	11 48	8 26	8 55	
17	S	8TH SUN. APT. TRIN.	4 5	8 6	6 24	2 5	14	—	0 17	9 24	9 50	
18	M	Days decrease 35m.	4 6	8 5	7 11	3 12	15	0 46	1 12	10 16	10 40	
19	Tu	Spanish Armada at Ply- mouth, 1586	4 7	8 4	7 51	4 27	○	1 38	2 2	11 3	11 29	
20	W	Margaret	4 8	8 3	8 24	5 48	17	2 25	2 51	11 53	—	
21	Th	Battle of Bull Run, 1861	4 10	8 2	8 53	7 11	18	3 15	3 39	0 17	0 38	
22	F	Battle of Salamanca, 1811	4 11	8 0	9 19	8 34	19	4 0	4 22	1 0	1 24	
23	S	Length of day 15h. 37m.	4 12	7 59	9 45	9 55	20	4 46	5 8	1 46	2 8	
24	S	9TH SUN. APT. TRIN.	4 14	7 58	10 12	11 13	21	5 30	5 55	2 33	2 56	
25	M	St. James	4 15	7 56	10 41	Aftern.	22	6 18	6 42	3 20	3 45	
26	Tu	St. Anne	4 17	7 55	11 15	1 43	23	7 7	7 35	4 13	4 46	
27	W	Battle of Talavera, 1809	4 18	7 53	11 54	2 50	24	8 8	8 38	5 16	5 53	
28	Th	Incumbered Estates Bill passed, 1849	4 19	7 52	Morn.	3 52	25	9 15	9 53	6 31	7 9	
29	F	Sir C. Crosswell died, 1863	4 21	7 50	0 38	4 46	26	10 31	11 10	7 48	8 23	
30	S	Penn died, 1718	4 22	7 49	1 31	5 31	27	11 45	—	8 56	9 24	
31	S	10TH S. APT. TRIN.	4 24	7 47	2 28	6 11	28	0 18	0 46	9 51	10 14	







"THE FIRST-BORN," BY F. GOODALL, A.R.A.—FROM "THE ILLUSTRATED LONDON NEWS."

"THE FIRST-BORN" is distinguished for its splendour and intensity of colour and tone and its breadth and completeness of effect. It is also free from a tendency to conventionality of execution into which the artist was falling, in his latter Brittany pictures more especially. We have very competent authority for saying that the subject before us is a perfectly faithful representation. A gentleman who was with the artist at the time tells us that the swarthy model was a Copt woman from the "Christian" or "Copt quarter" of Cairo, and that the fine type and form of these women are not exaggerated. She wears the usual long veil and black hábarah of the Cairene women. The taste for hanging the earrings and dress with Venetian sequins and other gold coins is shown here, even the cap of the infant being thus decorated. This description of trinket is worn by women all along the seaboard of Africa; and our lady-readers know the fashion has lately been adopted by European ladies. The coffee-table, curiously inlaid with ivory and mother-of-pearl, is short, to suit the low divans and the recumbent position assumed when taking refreshments. Through the perforations of the metal vessel on the table the smoke of burning perfume is escaping, exemplifying the common local custom of scenting apartments. The partly-covered divan on which the woman sits is very light but very strong, being constructed of a close framework of split bamboo. The patterns and diapers on the matting of the wall and parts of the draperies show that simple conventionality of design for which the Egyptians and other Oriental nations are remarkable, and which might often, though not always or slavishly, be imitated with advantage by our own designers and in our art-manufactures.

"LINNETS DEFENDING THEIR NEST AGAINST A DORMOUSE."

THE action of the little creatures is given with immense spirit. The great dormouse, crouching and persistent, has broken down one side of the nest and already cracked two or three eggs; but the linnets, especially the female, will not be scared away, but flutter over and cling to it, and with all the feathers of their polls on end, and screaming from their little throats, usually so melodious, and attacking with their sharp little beaks the heartless thief, defend it to the last extremity.



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

## ASTRONOMICAL OCCURRENCES.

### JANUARY.

THE SUN was at its shortest distance from the Earth at 10h. 26m. a.m. of Dec. 31, 1863. It is now situated south of the Equator, and is moving northward. It passes from the sign of Capricornus to that of Aquarius at 5h. 42m. on the evening of the 20th.

The MOON is in conjunction with Saturn at 0h. 6m. a.m. of the 3rd; with Jupiter at 10h. 2m. a.m. of the 5th; with Venus at 1h. 55m. a.m. of the 6th; with Mars at 1h. 29m. a.m. of the 7th; with Mercury at 6h. 11m. p.m. of the 10th; with Uranus at 10h. 31m. of the 20th; and with Saturn at 8h. 6m. a.m. of the 30th. It is nearest the Earth at 2h. a.m. of the 10th, and at its greatest distance at 9h. p.m. of the 24th.

Last Quarter occurs at 39 minutes past 7 on the morning of the 2nd.  
New Moon " 46 " 7 on the morning of the 9th.  
First Quarter " 6 " 11 on the evening of the 15th.  
Full Moon " 3 " 10 on the evening of the 23rd.

OCCULTATIONS OF STARS BY THE MOON.—Jan. 3,  $\epsilon$  Virginis, 5th magnitude. Disappearance at 4h. 40m. a.m.; reappears at 4h. 54m. a.m.; angles from vertex, 125 and 149 deg. respectively. Jan. 20,  $\chi$  Orionis,  $4\frac{1}{2}$  magnitude; disappears at 7h. 57m. p.m.; reappears at 9h. 13m. p.m.; angles from vertex, 39 and 280 deg. respectively. Jan. 21, disappearance of  $\chi$  Orionis at 1h. 51m. a.m.; reappears at 2h. 53m. a.m.; angles from vertex, 139 and 281 deg. respectively. Jan. 24, Kappa Cancri, of the 5th magnitude; disappears at 6h. 30m. p.m.; reappears at 7h. 15m. p.m.; angles from vertex, 355 and 259 deg. respectively.

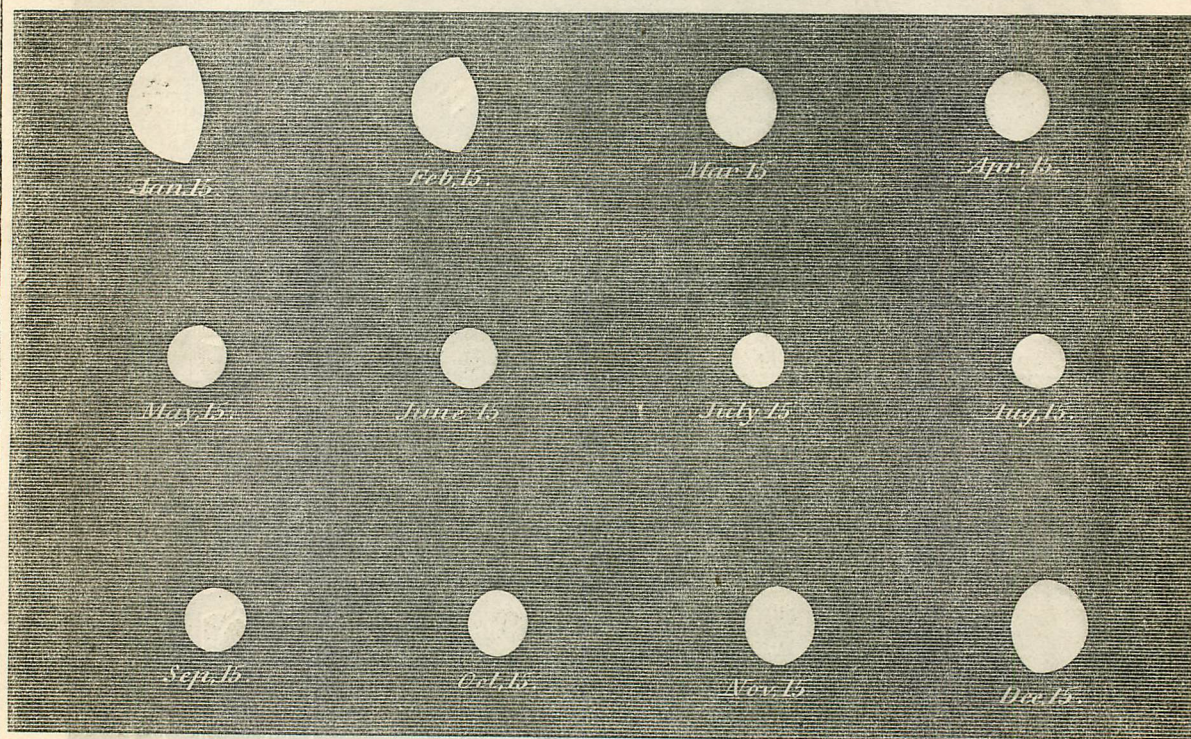
MERCURY is on the borders of Capricornus and Sagittarius at the beginning, and in that of Sagittarius at the end, of the month. It is best seen during the evening at the former time. It arrives at its greatest easterly elongation at 9h. 12m. a.m. of the 9th; is in conjunction with the Moon at 6h. 11m. p.m. of the 10th; arrives at its stationary point at 6h. 53m. p.m. of the 15th; is at its shortest distance from the Sun at 1h. 43m. a.m. of the 17th; and in inferior conjunction with the Sun at 3h. 58m. a.m. of the 25th. On Jan. 1 it rises at 9h. 17m. a.m., and on Jan. 31 at 6h. 42m., setting at the former time at 5h. 18m. p.m., and at the latter at 3h. 46m. p.m.

VENUS is in the constellation of Libra at the beginning, and in that of Sagittarius at the end, of the month. It is now the morning star, rising in the S.E. at 4h. 13m. a.m. of Jan. 1, and at 5h. 16m. a.m. of Jan. 31, and setting at 1h. 31m. p.m. and 1h. 24m. p.m. respectively at those dates. It is near the Moon at 1h. 55m. a.m. of the 6th; very close to  $\chi$  Ophiuchi at 5h. 46m. a.m. of the 22nd, being then 9 minutes north, and again at 9h. 36m. a.m. of the 23rd, when it is about six minutes (of time) to the east.

MARS is badly situated for observation, rising at 5h. 53m. a.m. of Jan. 1, and setting at 1h. 57m. p.m. On Jan. 31 it rises at 5h. 40m. a.m., setting at 1h. 20m. p.m. It is on the confines of the constellations of Scorpio and Ophiuchus at the beginning, and in that of Sagittarius at the end of the month. It is close to the Moon at 1h. 29m. a.m. of the 7th, and one minute of arc south of  $\delta$  Sagittarii at 8h. 29m. a.m. of the 25th.

JUPITER is visible in the morning in the S.E., rising at 4h. 0m. a.m. of Jan. 1, and at 2h. 26m. a.m. of Jan. 31, setting at those times respectively at 1h. 7m. p.m. and 11h. 20m. a.m. It remains in the constellation of Libra throughout that month. It is close to the moon at 10h. 2m. a.m. of the 5th.

SATURN is not visible until after midnight at the beginning of the month,



PHASES AND RELATIVE DIMENSIONS OF THE DISC OF VENUS, 1864.

rising at 0h. 47m. a.m. on Jan. 1, and at 10h. 51m. p.m. of Jan. 31. At those dates it sets at 0h. 9m. p.m. and 10h. 13m. a.m. respectively. It is situated in the constellation of Virgo. It is close to the Moon at 0h. 6m. a.m. of the 3rd, and at 8h. 6m. a.m. of the 30th; is in quadratures to the Sun at 5h. 19m. p.m. of the 8th, and arrives at its stationary point at 0h. 53m. p.m. of the 28th.

URANUS is visible throughout the nights in the constellation of Taurus. It is close to the Moon at 10h. 31m. a.m. of Jan. 20. It rises at 2h. 27m. p.m. of Jan. 1, and at 0h. 25m. p.m. of Jan. 31, setting at those times at 7h. 3m. a.m. and 5h. 1m. a.m. respectively.

ECLIPSES OF JUPITER'S SATELLITES.—Jan. 4, 5h. 42m. a.m., second satellite, disappearance; Jan. 12, 6h. 29m. a.m., first satellite, disappearance; Jan. 23, 4h. 46m. a.m., first satellite, disappearance; Jan. 29, 4h. 17m. a.m., third satellite, disappearance; Jan. 29, 4h. 52m. a.m., second satellite, reappearance; Jan. 29, 6h. 11m. a.m., third satellite, reappearance.

### FEBRUARY.

THE SUN passes from the sign of Aquarius to that of Pisces at 8h. 19m. a.m. of the 19th. It is situated south of the Equator, and moving northwards.

The MOON is in conjunction with Jupiter at 1h. 46m. a.m. of the 2nd; with Venus at 10h. 1m. p.m. of the 4th; with Mars at 11h. 4m. p.m. of the 4th; with Mercury at 6h. 58m. a.m. of the 6th; with Uranus at 3h. 14m. p.m. of the 16th; with Saturn at 0h. 21m. p.m. of the 26th; with Jupiter at 0h. 14m. p.m. of the 29th. It is at its least distance from the Earth at 3h. p.m. of the 7th, and at its greatest distance at 9h. p.m. of the 20th.

Last Quarter occurs at 17 minutes past midnight of Jan. 31.  
New Moon " 10 " 6 on the evening of the 7th.  
First Quarter " 24 " 1 on the evening of the 14th.  
Full Moon " 1 " 5 on the evening of the 22nd.

OCCULTATIONS OF STARS BY THE MOON.—Feb. 21, Kappa Cancri, 5th magnitude; disappears at 2h. 35m. a.m.; reappears at 3h. 33m. a.m.; angles from vertex, 132 and 257 deg. respectively.

MERCURY arrives at its greatest westerly elongation from the Sun at 11h. 46m. p.m. of the 18th, at which time it will be, as a morning star, best seen. It is in the constellation of Sagittarius at the beginning, and in that of Capricornus at the end, of the month, rising at those times at 6h. 37m. and 7h. 10m. a.m., and setting at 3h. 40m. and 3h. 14m. p.m. respectively. It is stationary at 7h. 10m. p.m. of the 5th, and is near the Moon at 6h. 58m. a.m. of the 6th.

VENUS is still a morning star, rising at 5h. 17m. a.m. of the 1st, and at 5h. 32m. a.m. of the 29th; and setting at those times at 1h. 25m. and 2h. 14m. p.m. respectively. It is in the constellation of Sagittarius at the beginning, and in that of Capricornus at the end, of the month. It is near the Moon at 10h. 1m. p.m. of the 4th, and a little to the north of Mars at 5h. 42m. a.m. of the 6th.

MARS is only visible in the S.E. in early twilight, rising at 5h. 40m. a.m. of Feb. 1, and at 5h. 7m. a.m. of Feb. 29; and setting at those times at 1h. 20m. p.m. and 1h. 9m. p.m. It is in the constellation of Sagittarius at the beginning, and on the borders of Sagittarius and Capricornus at the end, of the month. It is near the Moon at 11h. 4m. p.m. of the 4th, and near Venus at 5h. 42m. a.m. of the 6th.

SATURN is now visible in the east during the evenings, rising at 10h. 47m. p.m. of Feb. 1, and at 8h. 49m. p.m. of Feb. 29, and setting at those times at 10h. 9m. a.m. and 8h. 17m. a.m. It remains in the constellation of Virgo. It is near the Moon at 0h. 21m. p.m. of the 26th.

URANUS is still visible throughout the evenings and nights in the constellation of Taurus, rising at 0h. 21m. p.m. of the 1st, and at 10h. 30m. a.m.



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

of the 29th, and setting at those times at 4h. 57m. a.m. and 3h. 6m. a.m. It is near the Moon at 3h. 14m. p.m. of the 16th, and arrives at its stationary point at 4h. 10m. a.m. of the 28th.

JUPITER rises at 2h. 22m. a.m. on Feb. 1, and at 0h. 44m. of Feb. 29, and is visible low down in the S. and S.E. before sunrise. It sets at those times at 1h. 16m. a.m. and 9h. 32m. a.m. It remains in the constellation of Libra throughout the month. It is near the Moon at 1h. 46m. a.m. of Feb. 2; is in quadrature with the Sun at 9h. 20m. p.m. of the 15th, and again near the Moon at 0h. 14m. p.m. of the 29th.

ECLIPSES OF JUPITER'S SATELLITES.—Feb. 4, 6h. 39m. a.m., first satellite, disappearance; Feb. 5, 5h. 10m. a.m., second satellite, disappearance; Feb. 13, 8h. 1m. a.m., first satellite, disappearance; Feb. 20, 4h. 54m. a.m., first satellite, disappearance.

## MARCH.

THE SUN is situated south of the Equator, and in the sign of Pisces until 8h. 10m. a.m. of the 20th, when it passes into the sign of Aries, and is then north of the Equator.

THE MOON is in conjunction with Mars at 8h. 53m. p.m. of the 4th; with Venus at 8h. 27m. p.m. of the 5th; with Mercury at 7h. 2m. p.m. of the 6th; with Uranus at 10h. 26m. p.m. of the 14th; with Saturn at 2h. 2m. p.m. of the 24th; and with Jupiter at 5h. 32m. p.m. of the 27th. It is nearest the Earth at 2h. a.m. of the 7th and most distant at 8h. a.m. of the 19th.

Last Quarter occurs at 12 minutes past	1	on the afternoon of the 1st.
New Moon	59	" 3 on the morning of the 8th.
First Quarter	7	" 6 on the morning of the 15th.
Full Moon	24	" 10 on the morning of the 23rd.
Last Quarter	20	" 10 on the evening of the 30th.

OCCULTATIONS OF STARS BY THE MOON.—March 1, Omega Ophiuchi, 5th magnitude; disappears at 6h. 19m. a.m.; reappears at 7h. 33m.; angles from vertex 73 and 301 deg. respectively. March 3, 21 Sagittarii, 5th magnitude; disappears at 3h. 46m. a.m.; reappears at 4h. 21m. a.m.; angles from vertex 117 and 185 deg. respectively. March 28, Omega Scorpii, 4½ magnitude; disappears at 0h. 3m. a.m.; reappears at 1h. 5m. a.m.; angles from vertex 20 and 260 deg. respectively.

MERCURY is best seen at the beginning of the month, being near the Sun, approaching superior conjunction towards the end. It rises at 6h. 10m. a.m. of the 1st, and at 5h. 44m. a.m. of the 31st, setting at those times at 3h. 15m. p.m., and 6h. 10m. p.m. respectively. It is in the constellation of Capricornus at the beginning, and in that of Pisces at the end, of the month. It is near the Moon at 7h. 2m. p.m. of the 6th, and very close to Iota Aquarii (one minute in time west) at 2h. 30m. a.m. of the 8th.

VENUS is still the morning star, but from twilight and its own faintness is not a conspicuous object. It rises at 5h. 34m. a.m. of March 1, and at 5h. a.m. of the 31st, setting at those times at 2h. 16m. and 3h. 43m. p.m. It is situated in the constellation of Capricornus at the beginning, and in that of Aquarius at the end, of the month. It is near the Moon at 8h. 27m. p.m. of the 5th, and very close to Mu Capricorni on the morning of the 16th, being directly south of that star at 4h. 35m. a.m., and directly east at 5h. 42m. a.m.

MARS is almost invisible in the morning twilight. It rises at 5h. 7m. a.m. of March 1, and at 4h. 9m. a.m. of March 31, setting at those times at 1h. 9m. p.m. and 1h. 15m. p.m. respectively. It is situated on the borders of the constellations of Sagittarius and Capricornus on March 1, and in Capricornus on March 31. It is near the Moon at 8h. 53m. p.m. of the 4th, and close to Iota Capricorni between 3h. 15m. a.m. and 10h. 43m. p.m. of the 29th, being at the former time directly west and at the latter directly north of that star.

JUPITER rises at 0h. 40m. a.m. of the 1st, and at 10h. 36m. p.m. of the 31st, setting at those times at 9h. 28m. a.m. and 7h. 30m. a.m. It is in the constellation of Libra throughout the month. It arrives at its stationary point at 0h. 28m. p.m. of the 13th, and is near the Moon at 5h. 32m. p.m. of the 27th.

SATURN is visible throughout the night, rising at 8h. 45m. p.m. of the 1st, and at 6h. 35m. p.m. of the 31st, and setting at 8h. 13m. a.m. and 6h. 11m. a.m. respectively. It is in the constellation of Virgo throughout the month. It is near the Moon at 3h. 2m. p.m. of the 24th.

URANUS is still visible in the constellation of Taurus, rising at 10h. 26m. a.m. of the 1st, and at 8h. 29m. a.m. of the 31st, setting at those times at 3h. 2m. and 1h. 5m. a.m. respectively. It arrives in quadrature with the Sun at 10h. 13m. a.m. of the 11th, and is near the Moon at 10h. 26m. p.m. of the 14th.

ECLIPSES OF JUPITER'S SATELLITES.—March 1, 2h. 5m. a.m., second satellite, disappearance; March 1, 4h. 20m. a.m., second satellite, reappearance; March 5, 1h. 59m. a.m., third satellite, reappearance; March 7, 3h. 9m. a.m., first satellite, disappearance; March 8, 4h. 38m. a.m., second satellite, disappearance; March 12, 4h. 2m. a.m., third satellite, disappearance; March 14, 5h. 5m. a.m., first satellite, disappearance; March 23, 1h. 25m. a.m., first satellite, disappearance; March 30, 3h. 18m. a.m., first satellite, disappearance.

## APRIL.

THE SUN is north of the Equator and in the sign of Aries until 8h. 14m. p.m. of the 19th, when it passes into that of Taurus.

THE MOON is in conjunction with Mars at 5h. 57m. p.m. of the 2nd; with Venus at 5h. 53m. p.m. of the 4th; with Mercury at 10h. 4m. p.m. of the 6th; with Uranus at 8h. 22m. a.m. of the 11th; with Saturn at 6h. 27m. p.m. of the 20th; and with Jupiter at 7h. 48m. p.m. of the 23rd. It is at its least distance from the Earth at 6h. a.m. of the 4th, and at its greatest distance at 2h. a.m. of the 16th.

New Moon occurs at 49 minutes past 1	on the afternoon of the 6th.
First Quarter	9 " midnight of the 13th.
Full Moon	19 " 1 on the morning of the 22nd.
Last Quarter	34 " 4 on the morning of the 29th.

OCCULTATIONS OF STARS BY THE MOON.—A near approach of Chi Orionis at 0h. 35m. a.m. of the 12th.

MERCURY is best visible as an evening star at the end of the month. It rises on April 1 at 5h. 43m. a.m., and on April 30 at 5h. 5m. a.m., setting at those times at 6h. 7m. and 9h. 33m. p.m. respectively. It is in the constellation of Pisces at the beginning, and in that of Taurus at the end, of the month. It is in superior conjunction with the Sun at 5h. 36m. p.m. of the 3rd; is close to the Moon at 10h. 4m. p.m. of the 6th; is at its shortest distance from the Sun at 1h. 2m. a.m. of the 14th, and at its greatest easterly elongation at 10h. 10m. a.m. of the 30th.

VENUS is badly situated for observation, rising at 4h. 59m. a.m. of the 1st, and at 4h. 6m. a.m. of the 30th, and setting at those times at 3h. 45m. and 5h. 10m. p.m. respectively. It is situated in the constellation of Aquarius at the beginning, and in that of Pisces at the end, of the month. It is near the Moon at 5h. 53m. p.m. of the 4th, and is at its greatest distance from the Sun at 11h. 25m. a.m. of the 5th.

MARS is in the constellation of Capricornus at the beginning, and in that of

Aquarius at the end, of the month. It rises at 4h. 9m. a.m. of the 1st, and at 2h. 57m. a.m. of the 30th, setting at those times at 1h. 15m. p.m. and 1h. 27m. p.m. respectively. It is near the Moon at 5h. 57m. p.m. of the 2nd; is nine minutes in time to the west of Iota Aquarii at 8h. 38m. p.m. of the 10th; is eight minutes and a half to the east of Mu Capricorni at 6h. 5m. a.m. of the 12th, and three minutes to the east of Sigma Aquarii at 7h. 17m. a.m. of the 23rd.

JUPITER is now visible during the night, rising at 10h. 32m. p.m. of the 1st, and at 8h. 23m. p.m. of the 30th. It sets at 7h. 26m. a.m. and 5h. 25m. a.m. at those dates respectively. It is situated in the constellation of Libra throughout the month. It is near the Moon at 7h. 48m. p.m. of the 23rd.

SATURN arrives in opposition to the Sun at 6h. 8m. a.m. of April 4, and is consequently at its brightest point and a conspicuous planetary object throughout the night. It rises at 6h. 31m. p.m. of the 1st, and at 4h. 25m. p.m. of the 30th, setting at those times at 6h. 7m. a.m. and 4h. 9m. a.m. respectively. It remains in the constellation of Virgo during the month, and is near the Moon at 6h. 27m. p.m. of the 20th.

URANUS is still visible in the north-west, in the constellation of Taurus. It rises at 8h. 25m. a.m. of the 1st, and at 6h. 36m. a.m. of the 30th, setting at those times at 1h. 1m. a.m. and at 11h. 10m. p.m. respectively. It is near the Moon at 8h. 22m. a.m. of the 11th.

ECLIPSES OF JUPITER'S SATELLITES.—April 2, 1h. 35m. a.m., second satellite, disappearance; April 7, 1h. 40m. p.m., first satellite, disappearance; April 9, 4h. 9m. a.m., second satellite, disappearance; April 15, 1h. 34m. a.m., first satellite, disappearance; April 16, 11h. 52m. p.m., third satellite, disappearance; April 17, 1h. 45m. a.m., third satellite, reappearance; April 22, 3h. 27m. a.m., first satellite, disappearance; April 24, 3h. 50m. a.m., third satellite, disappearance; April 26, 10h. 35m. p.m., second satellite, disappearance; April 30, 11h. 50m. p.m., first satellite, disappearance.

MAY.

THE SUN is north of the Equator and in the sign of Taurus until 8h. 19m. p.m. of the 20th, when it passes into the sign of Gemini.

THE MOON is in conjunction with Mars at 1h. 30m. p.m. of the 1st; with Venus at 1h. 24m. p.m. of the 4th; with Mercury at 10h. 54m. a.m. of the 7th; with Uranus at 7h. 51m. p.m. of the 8th; with Saturn at 11h. 51m. p.m. of the 17th; with Jupiter at 9h. 54m. p.m. of the 20th; and with Mars at 7h. 12m. a.m. of the 30th. It is at its least distance from the Earth at 11h. a.m. of the 1st and at noon of the 26th, and at its greatest distance at 9h. p.m. of the 13th.

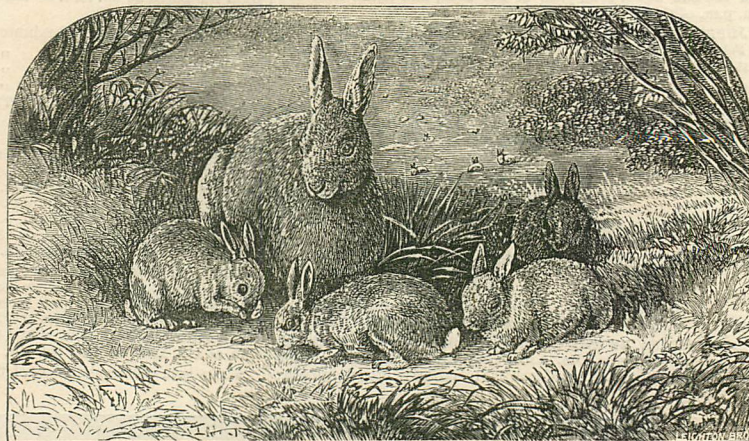
New Moon occurs at 14 minutes past	midnight of the 5th.
First Quarter	21 " 6 on the afternoon of the 13th.
Full Moon	24 " 1 on the afternoon of the 21st.
Last Quarter	21 " 9 on the morning of the 28th.

(Continued on page 41.)



PATH OF MARS, 1864.





RABBITS.

D. OF M.	P. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.		MOON.			HIGH WATER AT			
			Rises.	Sets.	Rises.	Sets.	Age	London Bridge.		Liverpool Dock.	
			H. M.	H. M.	Morn.	Aftern.	Dys	Morn.	Aftern.	Morn.	Aftern.
1	M	Lammas	4 25	7 46	3 29	6 42	29	1 13	1 36	10 33	10 53
2	Tu	Battle of Blenheim, 1732	4 27	7 44	4 32	7 9	28	1 55	2 15	11 12	11 30
3	W	Charles X. abdicated, 1830	4 28	7 42	5 36	7 33	1	2 34	2 52	11 47	—
4	Th	Day breaks 1h. 37m.	4 30	7 41	6 38	7 54	2	3 9	3 25	0 3	0 18
5	F	Sardinians capitulate, 1848	4 31	7 39	7 41	8 16	3	3 40	3 56	0 34	0 48
6	S	Queen at Cherbourg, 1853	4 33	7 37	8 46	8 37	4	4 10	4 27	1 5	1 20
7	S	Prince Alfred born, 1844	4 35	7 35	9 50	8 57	5	4 42	4 58	1 36	1 51
8	M	11TH S. AFT. TRIN.	4 36	7 34	10 54	9 21	6	5 13	5 28	2 6	2 24
9	Tu	Canning died, 1827	4 38	7 32	11 59	9 47	7	5 46	6 5	2 43	3 1
10	W	Hungarians defeated by Haynau, 1849	4 39	7 30	Aftern.	10 20	D	6 23	6 45	3 23	3 45
11	Th	Day breaks 2h. 5m.	4 41	7 28	2 11	11 0	9	7 7	7 34	4 12	4 41
12	F	Dog Days end	4 42	7 26	3 13	11 50	10	8 3	8 40	5 18	5 59
13	S	Grouse-shooting begins	4 44	7 24	4 11	Morn.	11	9 21	9 59	6 37	7 20
14	S	Twilight ends 9h. 52m.	4 46	7 22	4 59	0 50	12	10 42	11 22	8 0	8 35
15	M	12TH S. AFT. TRIN.	4 47	7 20	5 42	2 0	13	11 57	—	9 4	9 33
16	Tu	[New Poor Law estab., 1834]	4 49	7 18	6 20	3 18	14	0 26	0 55	9 59	10 14
17	W	Bomarsund taken, 1854	4 50	7 16	6 51	4 41	15	1 21	1 46	10 48	11 13
18	Th	Frederick the Great d., 1733	4 52	7 14	7 18	6 6	16	2 10	2 35	11 36	11 57
19	F	Length of day 14h. 22m.	4 53	7 12	7 47	7 29	17	2 58	3 19	—	0 20
20	S	Cardinal Stuart died, 1807	4 55	7 10	8 15	8 51	18	3 42	4 2	0 40	1 1
21	S	Garibaldi at Catania, 1862	4 57	7 8	8 44	10 11	19	4 23	4 48	1 26	1 48
22	M	13TH S. AFT. TRIN.	4 58	7 6	9 17	11 28	20	5 10	5 32	2 10	2 32
23	Tu	Battle of Bosworth, 1485	5 0	7 4	9 55	Aftern.	21	5 54	6 17	2 55	3 20
24	W	Mexico annexed, 1845	5 1	7 2	10 39	1 44	22	6 42	7 7	3 45	4 12
25	Th	St. Bartholomew	5 3	6 59	11 27	2 42	23	7 34	8 5	4 43	5 20
26	F	Revolution at Brussels, 1830	5 5	6 57	Morn.	3 30	24	8 42	9 26	6 4	6 44
27	S	Baths and Washhouses est., 1846	5 6	6 55	0 24	4 8	25	10 6	10 45	7 23	8 1
28	S	Algiers bombarded, 1816	5 8	6 53	1 22	4 45	26	11 23	11 59	8 37	9 6
29	M	14TH S. AFT. TRIN.	5 9	6 51	2 24	5 12	27	—	0 28	9 32	9 54
30	Tu	Battle of Aspromonte, 1862	5 11	6 49	3 27	5 38	28	0 54	1 16	10 14	10 31
31	W	Louis Philippe died, 1850	5 13	6 46	4 30	6 0	29	1 36	1 53	10 48	11 4
		Twilight ends 3h. 0h.									
		Bunyan died, 1683									





"LINNETS DEFENDING THEIR NEST AGAINST A DORMOUSE," MODELLED IN WAX BY A. CAIN.  
FROM THE "ILLUSTRATED LONDON NEWS."



## FRESH-WATER FISHES IN THEIR SEASON.

JULY AND AUGUST.

THE accompanying scene will be at once recognised by our home anglers—it is Teddington Lock, on the Thames. We have been talking grandly about highland streams and northern lochs, but the river scenery of England is, in its way, equally beautiful, and no river is more charming than the Thames. It is a classic stream, and its praises have been sung by the poets and celebrated by the historian. After Mrs. S. C. Hall and Thorne, it were vain to repeat its praises:—

Glide gently, thus for ever glide,  
O Thames! that anglers all may see  
As lovely visions by thy side,  
As now, fair river, come to me,  
Oh, glide, fair stream, for ever so  
Thy quiet soul on all bestowing,  
Till all our minds for ever flow  
As thy deep waters are now flowing.

The Thames takes its rise in Gloucestershire, about three miles from the town of Cirencester; and at that place, and for some miles of its course, it is known as the Isis, and not till the waters of the Thame join it in Oxfordshire is it known as the Thames. This celebrated river is small at first, and flows through some beautiful scenery and highly-cultivated country; its banks are studded with castles and palaces, beautiful towns, and snug villages; while well-stored gardens and cultivated fields give smiling evidence of plenty all along its course. When we consider that the Thames flows past Windsor, Hampton Court, and Richmond, that it laves the grassy lawns of Twickenham, waters the gardens of Kew, and that it bears upon its bosom the gigantic commerce of London, we can at once realise its importance, and can understand its being called the King of British rivers, although it is neither so long, nor does it contain so voluminous a body of water, as some other of our British streams. The total length of the River Thames is 215 miles, and the area of the country it waters is 6160 square miles. It has as affluents a great many fine streams, including the River Loddon, as also the Wey and the Mole. We are not entitled to consider it here in its picturesque aspects—our business with it is piscatorial, and we are able to certify that it is rich in fishes of a certain kind—

The bright-eyed perch with fins of Tyrian dye,  
The silver eel in shining volumes rolled,  
The yellow carp in scales bedropp'd with gold,  
Swift trout diversified with crimson stains,  
And pike, the tyrants of the watery plains.

Considering that all its best fishing points are accessible to an immense population, many of whom are afflicted with a mania for angling, it is quite wonderful that there is a single fish of any description left in it; and yet, but a year or two ago, the "pen of the war" bagged a seven-pound trout near Walton Bridge! We may be allowed just to run over a few Thames localities, and note what fish may be taken at them. Above Teddington at different places an occasional trout may be pulled out, but, although the finest trout in the world may be got in the Thames, they are, unfortunately, so scarce in the meantime, that it is hardly worth while to lose one's time in the all but vain endeavour to lure them from their home. Pike fishing or trolling will reward the Thames angler better than trouting. There are famous pike to be taken every here and there—in the deep pools and at the weirs, and, as the fish is voracious, a moderately good angler, with proper bait, is likely to have some sport with this fish. But the speciality of the Thames, so far, at least, as most anglers are concerned, is the quantity of fishes of the carp kind which it contains, as also perch. This latter fish may be taken with great certainty about Maidenhead, Cookham, Pangbourne, Walton, Latham, and Wallingford Road; and a kindred fish, the pike, in great plenty, may be sought for in the same localities. Then the bearded barbel is found in greater plenty in the Thames than anywhere else, and, as it is a fish of some size and of great courage, it affords fair sport to the angler. The best way to take the barbel is with the "Ledger" (see the "Thames Angler," by Arthur Smith), and the best places for this kind of fishing are the deeps at Kingston Bridge, Sunbury Lock, Halliford, Chertsey Weir, and in the deeps at Bray, where many a time and oft hath good hauls of barbel been taken. The best times for the capture of this fish are late in the afternoon or very early in the morning. Chub are also plentiful in the Thames, and Mr. Arthur Smith, who wrote a guide to Thames anglers, specially recommended the island above Goring for chub, also Marlow and the large island below Henley Bridge. This fish can be taken with the fly, and gives tolerable sport. The roach is a fish that abounds in all parts of the Thames, especially between Windsor and Richmond, and in the proper season (see September and October) it will be found in Teddington Weir, Sunbury, Blackwater, Walton Bridge, Shepperton Lock, the Stank Pitch at Chertsey, and near Maidenhead, Marlow, and Henley Bridges. At Teddington we may state that the dace is abundant, and there is plenty of little fish of various kinds that can be had as bait at most of the places we have named. In fact, on the Thames there is a superabundance of sport of its kind, and plenty of accommodation for anglers, with wise fishermen to teach them the art, and, although the best sport that can be enjoyed on this lovely stream is greatly different from the trout fishing of Wales or Scotland, it is good in its degree, and tends to health and high spirits, and an anxiety to excel in his craft, as one can easily see who ventures by the side of the water about Kew and Richmond.

With hurried steps  
The anxious angler paces on, nor looks aside,  
Lest some brother of the angle, ere he arrive,  
Possess his favourite swim.

In our division for September and October the reader will find a few words about the natural history of the carp family, which is a numerous one, and, if not so interesting as the Salmonidae, it deserves some consideration in an economical point of view.

Dr. Buckland, in a recent lecture on fish-hatching, told us what had been achieved on the Thames in respect of adding to its finny population; and who knows, when we subtract the sewage of the great city from the river, but that we may again be able to feast on that inimitable fish luxury, the Thames salmon—an impossibility, we should fancy, in the present polluted state of the river. The Doctor's figures as to fish turned into that river last year are as follows:—

Rhine salmon	..	..	..	..	..	6,000
English trout	..	..	..	..	..	22,000
French trout	..	..	..	..	..	2,000
Ombre chevalier	..	..	..	..	..	3,000
Grayling	..	..	..	..	..	2,000
Total	..	..	..	..	..	35,000

These fish were hatched at Hampton, near Hampton Court, in two sets of boxes erected in the greenhouse of Stephen Ponder, Esq., and the experiment has proved so successful, as to induce a belief that we shall one day have back in the Thames the famous salmon for which it was once so celebrated! We are not sanguine as to this. *Salmo Salar* must visit the sea, and, how it is ever to go and return through the liquid filth of London is a puzzle that we cannot solve. When London is properly drained and the sewage not sent into the river, it will be time enough to hope for the success of such an experiment.

In this chapter, before going further, we intend to say a few words about the gastronomy of fish. It is quite possible to have one's fish cooked by the river side; and, as we have been dwelling on river scenery, nothing will be easier than to introduce into the foreground of our picture the gipsy kettle on its tripod, over a brisk fire of turf or drift wood gathered on the river's bank. A picnic or fisher's camp is nothing without its living fire for tea or toddy. Long ago the Lords of Lovat used to cook a kettle of salmon at the river side. There is a story told of how salmon were boiled at the fall of Kilmorac, a noted salmon leap on the Beaulieu, in Inverness-shire. An immense boiler used to be erected at these falls, and kept at the boiling point by means of a brisk fire, and the fish, in their endeavour to attain the upper waters, used to leap right into the kettle; so that visitors to these falls were enabled, for luncheon, to partake of salmon, boiled to a nicety, and served up with the national sauce—whisky. Few of our town-dwellers ever feel the real flavour of a fish for want of knowing how to cook it, and also from not obtaining it fresh enough. The real Tweedside way of cooking a salmon, for instance, produces a dish fit for any Lord Mayor's banquet. There are several recipes for this pretty kettle of fish; but we prefer Mr. Stoddart's, which we give literally:—Crimp the fish immediately on its being killed, making the cuts slantwise, and at a distance of two inches from each other; separate also the gills, and, holding the fish by the tail, immerse its body in the stream for a space of three or four minutes, moving it backwards and forwards, so as to expedite the flowing off of the blood. In the meantime, if you have not previously done so, give orders to have the fire briskened, and the pot or cauldron filled, or nearly so, with cold spring water, which set on to boil. The fish, after being crimped and bled as directed, must then be conveyed to a table or kitchen dresser, and there be thoroughly cleansed inside. This done, divide it through the backbone into cuts or slices, of the slices already indicated in the crimping, throwing them into a large basin as you proceed. When the water in the kettle is at the boiling point, convey to it a large bowlful of kitchen salt, and it is necessary not to scrimp this part of the material, or you ruin the fish. Allow the water thus checked again to bubble up, and then pop in the cuts of salmon, head and all. Several minutes will elapse before the liquid contents of the pot once more arrive at the boiling point; whenever they do so, note the exact time, and when you do, touch up the fire and make it a brave one. For all fish under nine pounds weight allow ten minutes brisk boiling; and when exceeding nine pounds grant an extra minute to every additional pound. When ready, serve hot along with the brine in which the fish has been boiled; and, N.B., be sure and keep the brine for future uses of the same kind. This is salmon in perfection, and constitutes the veritable kettle of Tweedside such as frothed and foamed in the days of the merry monks of Melrose and Kelso. Salmon is usually spoiled in the eating by being saturated with melted butter, or some other gravy, as if the fish were not rich enough in itself, and thoroughly independent of all such aids. Long ago, when there was only a local demand for fresh salmon—in the days, we mean, when there were no railways to whirl away the produce of the deep with magic celerity to London or Manchester—pickled salmon was the usual shape in which this fish was provided, and immense quantities of it were sent over the country packed in kits, and it was esteemed a great delicacy. The way of cooking it was something similar to the plan of boiling the Tweedside kettle, vinegar, of course, being poured over the kit, in order to preserve the contents as long as possible. The fish eaten out of the pickling-kettle is a superb treat, having a flavour that fish sent to table in the usual way never yields. Another way of preparing salmon is to "kipper" it, and kippered salmon is an excellent dainty for the breakfast-table. Dealers in fish kipper those salmon which they are unable to sell in a fresh state. When a salmon is to be kippered, the fish must be cut up at the back, and the bone must be neatly taken out; it must then be well rubbed with equal quantities of sugar and salt, to which has been added a very little lump of saltpetre; pepper may also be added. Let the fish lie between clean boards, on which place a heavy weight, or, what is still better, stretch it out with pins across it, and hang it up to smoke. For use, it must be cut into thin streaks and then broiled, when it forms a famous addition to that rare selection of good things—a Scotch breakfast. We have seen a grise cut up and cooked in an old kettle at the waterside; we have also seen salmon steaks splendidly cooked over the fragments of a wood fire; and we have baked half a dozen perch in an extemporised oven made of waterside stones. We placed the fish on one flat stone and built the others over it, heaping over all a brisk fire of wooden debris gathered on the spot. Here is an angler's simple recipe for making ready a whiting or good trout by the river side:—Kindle a fire of dry wood. Take the fish just as it is landed from the water, put a pinch of salt into its mouth, then roll it up in two or three folds of paper—an old newspaper will do, taking care to twist the ends very tightly together. Steep the little packet in the river till it is thoroughly saturated, then lay it among the embers of your fire. When you see that the paper is becoming thoroughly well charred you may consider that the fish is thoroughly well done; dish up, therefore, at once, and set to work; the meal will be savoury and acceptable. Of course, the fish has not been cleaned or drawn; *n'importe*, the intestines will not in the least degree injure the flavour. Angling parties ought always to carry some kind of vessel in which to boil or fry a trout; it affords the means of enjoying a fish dinner while the fish are fresh and highly palatable. There is no scene so joyous as to see a few jolly anglers at luncheon by the river side—the blazing fire, the simmering kettle, the free-and-easy attitudes of the party make up a pretty picture; and the joke and anecdote go their round, causing the scene to echo with hilarious song and story. When the angling party do not picnic at the immediate scene of their piscatorial triumphs there is usually hard by a nice clean "public," where a pretty parlour and good ale may be obtained, and where the landlady is a famous cook. There are many such places on the Thames, and in one or other Mr. Arthur Smith's angler's dinner may be enjoyed. It consists of fried gudgeon, baked pike, a little ham and peas, concluding with an apricot tart. Then, perchance, some of our readers, whilst fishing in Scotland, may have put up for a day or two at Mrs. Richardson's (better known as "Tibbie Shiel's"), at lone St. Mary's, and may have been regaled with her homely but healthy fare, and have heard her choice anecdotes of Christopher North, the Ettrick Shepherd, and Walter Scott. There is no place like Tibbie's for passing, in self-communion, a thoroughly rural Saturday and Sunday amid the great solitudes of Nature. There is nothing of art at hand but the monument to "Jamie Hogg."



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

**OCCULTATIONS OF STARS BY THE MOON.**—May 1, Kappa Aquarii disappears at 3h. 31m. a.m.; reappears at 4h. 33m. a.m.; angles from vertex 89 and 250 deg.; May 23, 21 Sagittarii, disappears at 9h. 46m. p.m.; reappears at 10h. 45m. p.m.; angles from vertex 34 and 263 deg. respectively.

**MERCURY** is best seen at the beginning of the month during the evenings, and is but indifferently seen at the end of the month. It rises at 5h. 4m. a.m. on May 1, and at 3h. 49m. a.m. of May 31, setting at those times respectively at 9h. 34m. p.m. and 6h. 44m. p.m. It is situated in the constellation of Taurus at the beginning and end of the month. It is near the Moon at 10h. 54m. a.m. of May 7; arrives at its stationary point at 10h. 8m. a.m. of the 12th; is in inferior conjunction with the Sun at 10h. a.m. of the 23rd; and at its greatest distance from the Sun at 0h. 41m. a.m. of the 28th.

**VENUS** is now very small and faint, and not favourably seen, being too near the Sun. It is in the constellation of Pisces at the beginning, and in that of Taurus at the end, of the month. It rises at 4h. 6m. a.m. of the 1st, and at 3h. 21m. a.m. of the 31st, setting at those times at 5h. 12m. and 6h. 45m. p.m. respectively. It is near the Moon at 1h. 24m. p.m. of the 4th.

**MARS** is also very unfavourably situated for observation. It rises at 2h. 56m. a.m. of the 1st, and at 1h. 36m. a.m. of the 31st; setting at those times at 1h. 26m. p.m. and 1h. 36m. p.m. respectively. It is in the constellation of Aquarius at the beginning, and in that of Pisces at the end, of the month. It is near the Moon at 1h. 30m. p.m. of the 1st and 7h. 12m. a.m. of the 30th, and 6½ min. east of Phi Aquarii at 11h. 43m. p.m. of the 9th.

**JUPITER** is now at its most brilliant aspect, arriving in opposition to the Sun at 6h. 46m. a.m. of the 13th. It is, however, from its low south declination, but unfavourably situated for delicate observations. It is situated in the constellation of Libra, and visible throughout the night. It rises at 8h. 19m. p.m. of May 1, and at 6h. p.m. of the 31st, setting at those times at 5h. 21m. a.m. and 3h. 15m. a.m. respectively. It is near the Moon at 9h. 54m. p.m. of the 20th.

**SATURN** is visible in the constellation of Virgo throughout the evenings,

rising at 4h. 21m. p.m. of the 1st and at 2h. 16m. p.m. of the 31st, and not setting until 4h. 5m. a.m. and 2h. 4m. a.m. respectively. It is near the Moon at 1h. 51m. p.m. of the 17th.

**URANUS** sets at 11h. 6m. p.m. of the 1st and at 9h. 15m. p.m. of the 31st, so is almost invisible. It rises at 6h. 32m. a.m. and 4h. 41m. a.m. respectively at those times. It is near the Moon at 7h. 51m. p.m. of the 8th.

**ECLIPSES OF JUPITER'S SATELLITES.**—May 4, 1h. 9m. a.m., second satellite, disappearance; May 17, 0h. 14m. a.m., first satellite, reappearance; May 21, 9h. 52m. p.m., second satellite, reappearance; May 22, 9h. 37m. p.m., third satellite, reappearance; May 24, 2h. 8m. a.m., first satellite, reappearance; May 29, 0h. 28m. a.m., second satellite, reappearance; May 30, 1h. 35m. a.m., third satellite, reappearance.

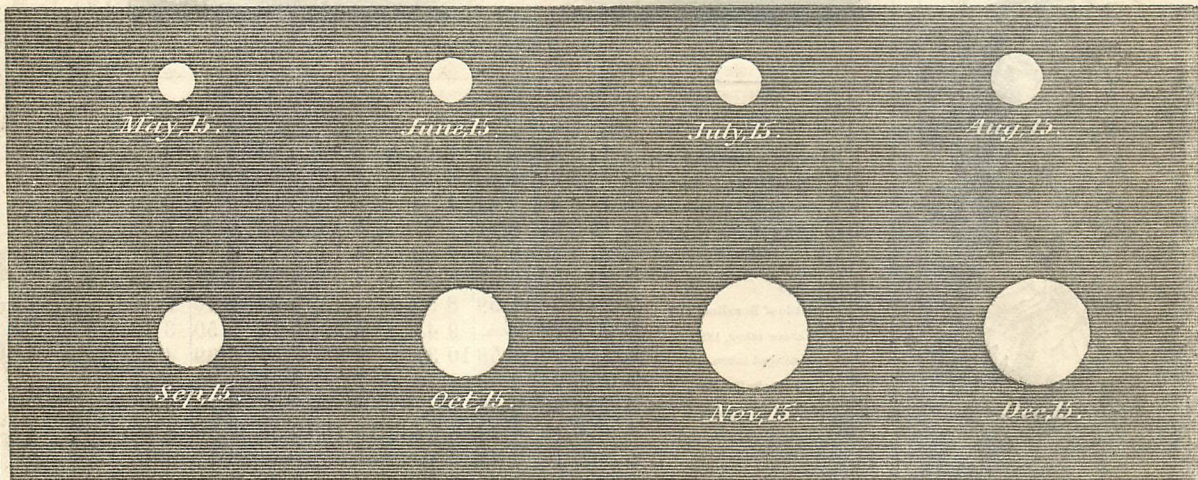
## JUNE.

**THE SUN** is in the sign of Gemini until 4h. 52m. a.m. of the 21st, when it passes into that of Cancer, and the summer quarter commences.

**THE MOON** is in conjunction with Mercury at 7h. 28m. a.m. of the 3rd; with Venus at 11h. 7m. a.m. of the same day; with Uranus at 7h. 14m. a.m. of the 5th; with Saturn at 7h. 20m. a.m. of the 14th; with Jupiter at 2h. 6m. a.m. of the 17th; and with Mars at 11h. 13m. p.m. of the 27th. It is at its greatest distance from the Earth at 3h. p.m. of the 10th, and at its least distance at 1h. p.m. of the 22nd.

New Moon occurs at 40 minutes past 11 on the morning of the 4th.	
First Quarter " 48 " 11 on the morning of the 12th.	
Full Moon " 54 " 10 on the afternoon of the 19th.	
Last Quarter " 15 " 2 on the afternoon of the 26th.	

**OCCULTATIONS OF STARS BY THE MOON.**—June 18, Omega Scorpil, 4½ magnitude; disappears at 0h. 27m. a.m.; reappears at 1h. 34m. a.m.; angles from vertex 87 and 316 deg. respectively. June 20, 15 Sagittarii, 5th magnitude; disappears at 4h. 10m. a.m.; reappears at 5h. 4m. a.m.; angles from vertex 196 and 346 deg. respectively. June 27, Delta Piscium, 4½ magnitude;



RELATIVE DIMENSIONS OF THE DISC OF MARS, 1864.

disappears at 1h. 40m. a.m.; reappears at 2h. 40m. a.m.; angles from vertex 89 and 244 deg. respectively.

**MERCURY** is best seen towards the middle of the month as the morning star. It is in the constellation of Taurus throughout the month. It rises at 3h. 35m. a.m. of June 1, and 2h. 40m. a.m. of June 30, setting at 6h. 39m. and 6h. 50m. p.m. respectively. It is near Venus at 10h. 30m. p.m. of the 1st; near the Moon at 7h. 28m. a.m. of the 3rd; is stationary at 1h. 28m. p.m. of the 4th; is near Delta Tauri at 1h. 25m. p.m. of the 16th, and near Epsilon Tauri at 6h. 3m. p.m. of the 21st. It arrives at its greatest westerly elongation at 3h. 13m. a.m. of the 18th.

**VENUS** is badly seen. It is in the constellation of Taurus at the beginning, and in that of Gemini at the end, of the month. It rises at 3h. 19m. a.m. of June 1, and at 3h. 22m. a.m. of June 30, setting respectively at 6h. 48m. p.m. and 8h. p.m. It is near Mercury at 10h. 30m. p.m. of the 1st; near the Moon at 11h. 7m. a.m. of the 3rd, and near Uranus at 8h. p.m. of the 23rd.

**MARS** is on the borders of the constellations of Pisces and Cetus on the 1st of June, and in that of Pisces at the end of the month. It is now becoming visible shortly after midnight, and is situated north of the Equator. It rises at 1h. 35m. a.m. of June 1, and at 0h. 14m. a.m. of the 30th; setting at those times at 1h. 35m. p.m. and 1h. 39m. p.m. It is at its shortest distance from the Sun at 9h. 52m. p.m. of the 21st, and is near the Moon at 11h. 13m. p.m. of the 27th.

**JUPITER** is visible throughout the night in the constellation of Libra. It rises at 5h. 55m. p.m. of June 1 and at 5h. 50m. p.m. of the 30th, setting at those times at 3h. 10m. a.m. and 1h. 9m. a.m. respectively. It is near the Moon at 2h. 6m. a.m. of the 17th.

**SATURN** is also visible, setting at 2h. a.m. of the 1st and at midnight of the 30th, and rising at those times at 2h. 12m. p.m. and 0h. 19m. p.m. respectively. It is in the constellation of Virgo. It arrives at its stationary point at 1h. p.m. of the 14th, and is near the Moon at 7h. 20m. a.m. of the 14th.

**URANUS** is now too close to the sun to be seen, arriving in conjunction at 6h. a.m. of the 16th. It is near the moon at 7h. 24m. a.m. of the 5th. It rises at 4h. 37m. a.m. of the 1st and at 2h. 51m. a.m. of the 30th, setting at 9h. 11m. and 7h. 25m. p.m. respectively. It is situated in the constellation of Taurus.

**ECLIPSES OF JUPITER'S SATELLITES.**—June 1, 10h. 31m. p.m., first satellite, reappearance; June 9, 0h. 26m. a.m., first satellite, reappearance;

June 22, 9h. 35m. p.m., second satellite, reappearance; June 24, 10h. 43m. p.m., first satellite, reappearance.

## JULY.

**THE SUN** is in the sign of Cancer until 3h. 50m. p.m. of July 22, when it passes into that of Leo. It remains north of the Equator during this month. It is at its greatest distance from the Earth at 5h. 36m. p.m. of the 11th.

**THE MOON** is in conjunction with Mercury at 2h. 20m. p.m. of the 2nd; with Uranus at 5h. 27m. p.m. of the same day; with Venus at 4h. 21m. p.m. of the 3rd; with Saturn at 4h. 21m. p.m. of the 11th; with Jupiter at 9h. 16m. a.m. of the 14th; with Mars at 1h. 40m. p.m. of the 26th, and with Uranus at 2h. 14m. a.m. of the 30th. It is at its greatest distance from the Earth at 8h. a.m. of the 8th, and at its least distance at 2h. p.m. of the 20th.

New Moon occurs at 24 minutes past midnight of July 3.	
First Quarter " 51 " 3 on the morning of the 12th.	
Full Moon " 36 " 6 on the morning of the 19th.	
Last Quarter " 46 " 8 on the evening of the 25th.	

**OCCULTATIONS OF STARS BY THE MOON.**—July 1, Epsilon Tauri, of 3½ magnitude; disappears at 3h. 14m. a.m.; reappears at 3h. 59m. a.m.; angles from vertex 26 and 276 deg. respectively. July 14, Kappa Libræ, of 5th magnitude; disappears at 11h. 49m. p.m.; reappears at 55 minutes after midnight; angles from vertex, 119 and 301 deg. respectively. July 23, Lambda Piscium, of 5th magnitude; disappears at 3h. 43m. a.m.; reappears at 4h. 26m. a.m.; angles from vertex, 173 and 255 deg. respectively.

**MERCURY** will be indifferently seen during the month, as it arrives in superior conjunction with the Sun on July 17, at 11h. 12m. a.m. It is in the constellation of Taurus at the beginning, and in that of Leo at the end, of the month. It rises on July 1 at 2h. 44m. a.m., and on July 31 at 5h. 40m. a.m., setting at those times at 6h. 54m. p.m. and 8h. 32m. p.m. respectively. It is near the Moon at 2h. 20m. p.m. of July 2; near Uranus at 0h. 17m. p.m. of July 3; at its shortest distance from the Sun at 0h. 19m. a.m. of the 11th, and near Venus at 0h. 52m. a.m. of the 17th.

**VENUS** is scarcely visible this month from its proximity to the Sun, with which it arrives in superior conjunction at 11h. 9m. a.m. of the 18th. It is in the constellation of Gemini at the beginning, and on the borders of Cancer and Leo at the end, of the month. It rises on July 1 at 2h. 24m. a.m., and on July 31 at 4h. 40m. a.m., setting at those times at 8h. 2m. p.m. and 8h. 4m. p.m.

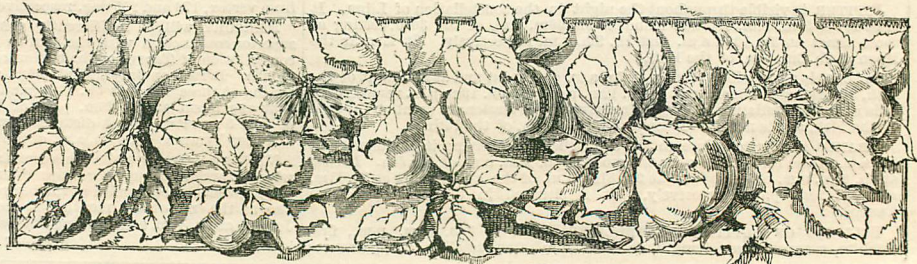
(Continued on page 44.)





CUB-HUNTING BEGINS.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.		MOON.			HIGH WATER AT			
			Rises.	Sets.	Rises.	Sets.	Age.	London Bridge.		Liverpool Dock.	
			H. M.	H. M.	Morn.	Aftern.	Dys.	Morn.	Aftern.	Morn.	Aftern.
1	Th	Partridge-shooting begins	5 14	6 44	5 33	6 22	1	2 10	2 26	11 22	11 37
2	F	Trial of Mdme. Laflange, 1840	5 16	6 42	6 37	6 43	1	2 44	2 59	11 51	—
3	S	British Bank stopped, 1856	5 17	6 40	7 41	7 4	2	3 13	3 28	0 6	0 21
4	S	15TH S. AFT. TRIN.	5 19	6 37	8 46	7 27	3	3 43	3 57	0 35	0 52
5	M	[Moscow burnt, 1812]	5 21	6 35	9 50	7 53	4	4 14	4 28	1 6	1 21
6	Tu	King of Naples at Gaeta, 1860	5 22	6 33	10 55	8 23	5	4 43	4 59	1 37	1 53
7	W	Battle of Borodino, 1812	5 24	6 31	11 59	8 59	6	5 15	5 32	2 10	2 30
8	Th	Warsaw taken, 1831	5 25	6 28	Aftern.	9 43	7	5 52	6 12	2 50	3 13
9	F	Sebastopol taken, 1855	5 27	6 26	1 58	10 37	8	6 35	7 1	3 39	4 9
10	S	Day breaks 3h. 25m.	5 29	6 24	2 49	11 40	9	7 31	8 6	4 44	5 27
11	S	16TH S. AFT. TRIN.	5 30	6 22	3 35	Morn.	10	8 49	9 32	6 10	6 54
12	M	Twilight ends 8h. 19m.	5 32	6 19	4 13	0 52	11	10 16	10 58	7 36	8 13
13	Tu	General Wolfe killed, 1759 [Fox died, 1806]	5 33	6 17	4 44	2 10	12	11 35	—	8 44	9 13
14	W	Duke of Wellington d., 1852	5 35	6 15	5 16	3 32	13	0 6	0 35	9 41	10 5
15	Th	Huskisson killed, 1830	5 37	6 12	5 44	4 57	14	1 3	1 27	10 16	10 49
16	F	James II. died, 1701	5 38	6 10	6 13	6 20	15	1 48	2 11	11 12	11 34
17	S	Cooper died, 1851	5 40	6 8	6 41	7 43	16	2 34	2 56	11 57	—
18	S	17TH S. AFT. TRIN.	5 41	6 5	7 14	9 4	17	3 19	3 41	0 19	0 40
19	M	Battle of Poitiers, 1356	5 43	6 3	7 52	10 20	18	4 2	4 23	1 1	1 21
20	Tu	Battle of the Alma, 1854	5 45	6 1	8 35	11 29	19	4 43	5 4	1 42	2 3
21	W	St. Matthew	5 46	5 59	9 23	Aftern.	20	5 25	5 46	2 24	2 48
22	Th	Slaves declared free, 1862	5 48	5 56	10 18	1 24	21	6 10	6 35	3 13	3 39
23	F	Charles I. dethroned, 1640	5 50	5 54	11 17	2 9	22	7 1	7 33	4 11	4 46
24	S	Roupeil Trials, 1862	5 51	5 52	Morn.	2 45	23	8 8	8 51	5 29	6 10
25	S	18TH S. AFT. TRIN.	5 53	5 49	0 18	3 14	24	9 32	10 12	6 50	7 31
26	M	Clarkson died, 1846. Holy Alliance ratified, 1815	5 54	5 47	1 21	3 41	25	10 53	11 28	8 6	8 38
27	Tu	Day breaks 3h. 58m.	5 56	5 45	2 22	4 5	26	—	0 0	9 2	9 22
28	W	Twilight ends 7h. 37m.	5 58	5 42	3 26	4 28	27	0 24	0 44	9 43	10 2
29	Th	St. Michael, Michaelmas Day	5 59	5 40	4 28	4 48	28	1 5	1 24	10 20	10 35
30	F	Whitfield died, 1770	6 1	5 38	5 32	5 9	29	1 42	1 57	10 50	11 7







"THE FLYFISHER," BY W. HUNT.—FROM "THE ILLUSTRATED LONDON NEWS."

W. THOMAS. SC.



# THE ILLUSTRATED LONDON ALMANACK FOR 1864.

respectively. It is near the Moon on July 3 at 4h. 21m. p.m.; near Mercury at 0h. 52m. of the 17th, and at its shortest distance from the Sun at 7h. p.m. of the 26th.

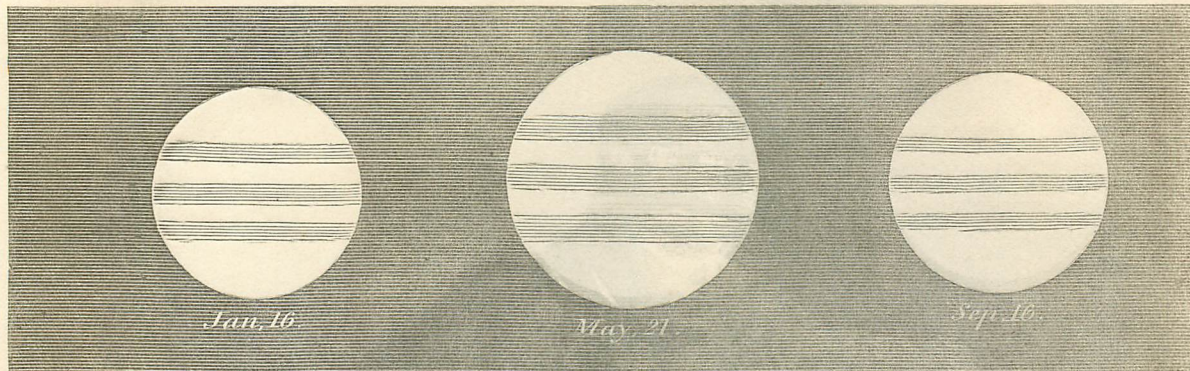
MARS is now dimly visible in the east, rising on July 1 at 0h. 14m. a.m., and on July 31 at 10h. 53m. p.m., setting at those times at 1h. 38m. and 1h. 34m. p.m. respectively. It is in the constellation of Pisces at the beginning, and in that of Aries at the end, of the month. It is three and a half minutes of time to the east of Omicron Piscium at 8h. 58m. p.m. of July 3, and near the Moon at 1h. 40m. p.m. of the 26th.

JUPITER is still visible during the evenings, setting at 1h. 5m. a.m. on

July 1, and at 11h. 3m. p.m. of the 31st. It rises at those times at 3h. 45m. p.m. and 1h. 47m. p.m. respectively, and continues in the constellation of Libra. It is near the Moon at 9h. 16m. a.m. of the 14th, and arrives at its stationary point at 6h. 16m. a.m. of the 15th.

SATURN is also visible, but fast disappearing from view, setting at 11h. 57m. p.m. of July 1 and at 10h. 2m. p.m. of the 31st. It rises at those times at 0h. 15m. p.m. and 10h. 26m. a.m. respectively, and still continues in the constellation of Virgo. It arrives at quadrature at 9h. 55m. a.m. of the 3rd, and is near the Moon at 4h. 21m. p.m. of the 11th.

URANUS is now invisible, rising at 2h. 47m. a.m. and 0h. 55m. a.m. and



DIMENSIONS OF JUPITER'S DISC, 1864.

setting at 7h. 21m. and 5h. 53m. p.m. respectively on July 1 and 31. It continues in the constellation of Taurus throughout the month. It is near the Moon at 5h. 27m. p.m. of the 2nd, and again at 2h. 14m. a.m. of the 30th.

ECLIPSES OF JUPITER'S SATELLITES.—July 4, 9h. 30m. p.m., third satellite, reappearance; July 24, 9h. 22m. p.m., second satellite, reappearance; July 31, 9h. 43m. p.m., second satellite, disappearance.

## AUGUST.

THE SUN remains in the sign of Leo until 10h. 28m. p.m. of August 28, when it passes into that of Virgo. It is north of the Equator throughout this month.

THE MOON is in conjunction with Venus at 4h. 18m. a.m. of the 3rd; with Mercury at 9h. 46m. a.m. of the 4th; with Saturn at 2h. 21m. a.m. of the 8th; with Jupiter at 7h. 8m. p.m. of the 10th; with Mars at 1h. 53m. a.m. of the 24th, and with Uranus at 10h. 6m. a.m. of the 26th. It is at its greatest distance from the Earth at 8h. p.m. of the 4th, and at midnight of the 31st, and at its least distance at 10h. p.m. of the 17th.

New Moon occurs at 34 minutes past 2 on the afternoon of the 2nd.

First Quarter " 57 " 5 on the afternoon of the 10th.

Full Moon " 37 " 1 on the afternoon of the 17th.

Last Quarter " 4 " 6 on the morning of the 24th.

OCCULTATIONS OF STARS BY THE MOON.—No occultations of bright stars this month.

MERCURY is best seen as the evening star at the latter end of the month, arriving at its greatest easterly elongation at 10h. 22m. a.m. of the 28th. It rises at 5h. 49m. a.m. of the 1st, and at 7h. 53m. a.m. of the 31st; setting at 8h. 29m. p.m. and 7h. 15m. p.m. respectively at those times. It is in the constellation of Leo at the beginning, and in that of Virgo at the end, of the month. It is near the Moon at 9h. 46m. a.m. of the 4th; eight minutes (in time) direct east of Regulus at 11h. 16m. a.m. of the 4th, and about the same quantity east of Rho Leonis at 5h. 41m. a.m. of the 8th, and is at its greatest distance from the Sun at 11h. 56m. p.m. of the 23rd.

VENUS is badly situated (from its proximity to the Sun) for observation

this month, and its disc continues very small and almost round. It rises at 4h. 43m. a.m. of Aug. 1, and at 6h. 19m. a.m. of Aug. 31, setting at those times at 8h. 3m. p.m. and 7h. 15m. p.m. respectively. It is on the borders of Cancer and Leo at the beginning, and in those of Leo and Virgo at the end, of the month. It is near the Moon at 4h. 18m. a.m. of the 3rd.

MARS is becoming a conspicuous object in the east late in the evening. It rises at 10h. 52m. p.m. of the 1st, and at 9h. 35m. p.m. of the 31st, setting at those times at 1h. 33m. p.m. and at 1h. 12m. p.m. respectively. It is in the constellation of Aries at the beginning, and in that of Taurus at the end, of the month. It arrives at quadrature with the Sun at 7h. 3m. p.m. of the 18th, and is near the Moon at 1h. 53m. a.m. of the 24th.

JUPITER is fast disappearing from view, setting shortly after twilight ends. On Aug. 1 it sets at 11h. p.m., and on Aug. 31 at 9h. 7m. p.m., rising on the former time at 1h. 44m. p.m., and on the latter at 0h. 3m. p.m. It still remains on the borders of the constellation of Libra. It is near the Moon at 7h. 8m. p.m. of the 10th, and arrives at quadrature with the Sun at 7h. 55m. a.m. of the 11th.

SATURN may still be dimly perceived in the west shortly after twilight ends. It sets at 9h. 58m. p.m. of Aug. 1 and at 8h. 5m. p.m. of Aug. 31, rising at 10h. 22m. a.m. and 8h. 39m. a.m. at those times respectively. It is in the constellation of Virgo. It is near the Moon at 2h. 21m. a.m. of the 8th.

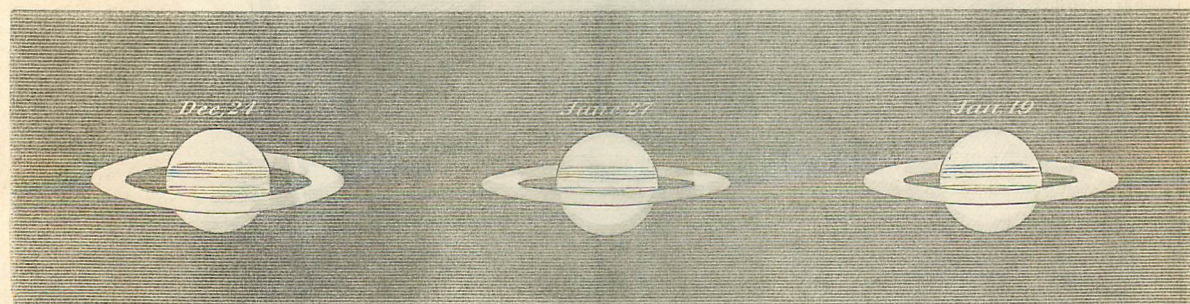
URANUS is now visible in the morning, although not favourably seen. It rises at 0h. 51m. a.m. of Aug. 1 and at 10h. 54m. p.m. of the 31st, setting at the same times at 5h. 29m. p.m. and 3h. 36m. p.m. respectively. It is near the Moon at 10h. 6m. a.m. of Aug. 26. It is in the constellation of Taurus at the beginning, and in that of Gemini at the end, of the month.

ECLIPSES OF JUPITER'S SATELLITES.—August 2, 9h. 14m. p.m., first satellite, reappearance.

## SEPTEMBER.

THE SUN is north of the Equator and in the sign of Virgo until 7h. 16m. p.m. of Sept. 22, when it passes into that of Libra, and the autumn quarter commences.

THE MOON is in conjunction with Venus at 2h. 47m. p.m. of the 2nd; with



RELATIVE DIMENSIONS OF BALL AND RING OF SATURN, 1864.

Mercury at 5h. 25m. p.m. of the 3rd; with Saturn at 1h. 7m. p.m. of the 4th; with Jupiter at 7h. 11m. a.m. of the 7th; with Mars at 9h. 13m. a.m. of the 21st; with Uranus at 5h. 54m. p.m. of the 22nd, and with Mercury at 1h. 8m. a.m. of the 30th. It is at its least distance from the Earth at 8h. a.m. of the 15th, and at its greatest at 5h. a.m. of the 28th.

New Moon occurs at 8 minutes past 6 on the morning of the 1st.

First Quarter " 50 " 5 on the morning of the 9th.

Full Moon " 9 " 9 on the evening of the 15th.

Last Quarter " 54 " 6 on the evening of the 22nd.

New Moon " 43 " 10 on the evening of the 30th.

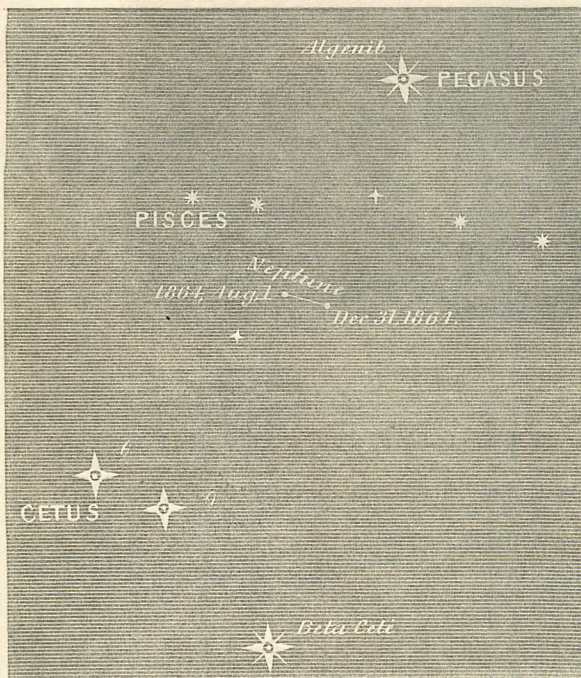
OCCULTATIONS OF STARS BY MOON.—No occultations of bright stars by Moon occur this month.

MERCURY rises at 7h. 55m. a.m. on Sept. 1, and at 4h. 57m. a.m. of the 30th, setting at those times at 7h. 13m. p.m. and 5h. 13m. p.m. respectively. It is in the constellation of Virgo at the beginning, and on the confines of Virgo and Leo at the end, of the month. It is favourably situated for observation throughout the month, and arrives at its inferior conjunction with the Sun at 2h. 51m. a.m. of the 24th. It is near the Moon at 3h. 25m. p.m. of the 3rd; is stationary at 8h. 22m. p.m. of the 10th; near Venus at 4h. 25m. a.m. of the 14th, and near the Moon shortly after midnight of the 29th.



VENUS continues to be badly situated for observation. It rises at 6h. 22m. a.m. of Sept. 1, and at 7h. 53m. a.m. of the 30th, setting at those times at 7h. 14m. p.m. and 6h. 17m. p.m. respectively. It is in Virgo during the month. It is near the Moon at 2h. 47m. p.m. of the 2nd, near Saturn at 6h. 36m. p.m. of the 23rd, and near Mercury at 4h. 25m. a.m. of the 14th.

MARS is becoming brighter, and, rising in the north-east, is a conspicuous object in the nights. It is in the constellation of Taurus throughout the month, and is favourably situated for comparison in colour with the red stars Aldebaran and Alpha Orionis. It rises at 9h. 33m. p.m. on Sept. 1, and at 8h. 10m. p.m. of the 30th, setting at 1h. 11m. p.m. and at 0h. 22m. p.m. respectively. It is near the Moon at 9h. 13m. a.m. of Sept. 21, and about eight minutes (in time) direct west of Iota Tauri at 0h. 17m. a.m. of the 24th.



PATH OF NEPTUNE, 1864.

JUPITER has now disappeared from view, and will only again become visible in the early mornings at the end of the year, and then only for a few minutes. It remains in the constellation of Libra throughout the month. It sets on Sept. 1 at 9h. 3m. p.m., and on the 30th at 7h. 20m. p.m., rising at 11h. 59m. a.m. and 10h. 32m. a.m. respectively. It is near the Moon at 7h. 11m. a.m. of the 7th.

SATURN is also invisible, setting at 8h. 2m. p.m. of the 1st and at 6h. 13m. p.m. of the 30th, and rising at those times at 8h. 36m. a.m. and 7h. 1m. a.m. respectively. It continues in the constellation of Virgo throughout the month. It is near the Moon at 1h. 7m. p.m. of the 4th.

URANUS rises on Sept. 1 at 10h. 50m. p.m., and on Sept. 30 at 8h. 58m. p.m., setting at those dates at 3h. 32m. p.m. and 1h. 40m. p.m. respectively. It is in the constellation of Gemini at present. It is at quadrature with the Sun at 6h. 15m. a.m. of the 22nd, and near the Moon at 5h. 54m. p.m. of the 22nd.

## OCTOBER.

THE SUN is south of the Equator during this month, and remains in the sign of Libra until 3h. 36m. a.m. of the 23rd, when it passes into that of Scorpio.

THE MOON is in conjunction with Saturn at 0h. 55m. a.m. of the 2nd; with Venus at 8h. 3m. p.m. of the 2nd; with Jupiter at 9h. 15m. p.m. of the 4th; with Mars at 5h. 56m. a.m. of the 19th; with Uranus at 2h. 12m. a.m. of the 20th; with Saturn at 1h. 55m. p.m. of the 29th, and with Mercury at 2h. 11m. a.m. of the 30th. It is at its least distance from the Earth at 6h. p.m. of the 13th, and at its greatest distance at 6h. p.m. of the 25th.

First Quarter occurs at 37 minutes past 3	on the afternoon of the 8th.
Full Moon	" 15 " 6 on the morning of the 15th.
Last Quarter	" 23 " 11 on the morning of the 22nd.
New Moon	" 28 " 3 on the afternoon of the 30th.

OCCULTATIONS OF STARS BY THE MOON.—Oct. 8, Rho Sagittarii, of 4th magnitude; disappears at 7h. 21m. p.m.; reappears at 8h. 8m. p.m.; angles from vertex, 169 and 253 deg. respectively. Oct. 9, Beta Capricorni, of 3rd magnitude; disappears at 8h. 35m. p.m.; reappears at 9h. 28m. p.m.; angles from vertex, 167 and 271 deg. Oct. 14, Epsilon Piscium, of 4th magnitude; disappears at 6h. 59m. p.m.; reappears at 7h. 49m. p.m.; angles from vertex, 40 and 294 deg. respectively.

MERCURY is favourably situated for observation at the beginning of the month, being the morning star, and arriving at its greatest westerly elongation from inferior conjunction at 2h. 10m. p.m. of the 9th. It passes from the constellation of Leo to that of Virgo in the course of the month. It rises at 4h. 59m. a.m. of Oct. 1, and at 6h. 13m. a.m. of the 31st, setting at those times at 5h. 9m. p.m. and 4h. 31m. p.m. respectively. It is stationary at 10h. 29m. a.m. of the 2nd; arrives at perihelion at 11h. 35m. p.m. of the 6th, and is near Saturn at 7h. 16m. p.m. of the 25th, and at 2h. 11m. a.m. of the 30th it is near the Moon.

VENUS is now the evening star, but is still badly situated for observation. It rises at 7h. 56m. a.m. of the 1st and at 9h. 33m. a.m. of the 31st, setting at 6h. 16m. p.m. and 5h. 36m. p.m. at those times respectively. It passes from

the constellation of Virgo to that of Scorpio during the month. It is near the Moon at 8h. 3m. p.m. of the 2nd; a little to the west of Alpha Libræ at 9h. a.m. of the 12th, and near Jupiter at 8h. 35m. p.m. of the 27th.

MARS is now a conspicuous object in the north-east sky during the nights. It rises at 8h. 9m. p.m. of the 1st and at 6h. 10m. p.m. of the 31st, setting at those times at 0h. 21m. p.m. and 10h. 42m. a.m. respectively. It continues in the constellation of Taurus throughout the month. It is near the Moon at 5h. 56m. a.m. of the 19th, and is stationary at 3h. p.m. of the 23rd.

JUPITER is now invisible, from its proximity to the Sun. It is near the Moon at 9h. 15m. p.m. of the 4th, and a little to the west of Beta Scorpii at 6h. 52m. a.m. of the 20th. It rises at 10h. 28m. a.m. of the 1st, and 9h. 4m. a.m. of the 31st, setting at those times at 7h. 16m. p.m. and 5h. 34m. p.m. respectively. It is in the constellation of Libra at the beginning, and in that of Ophiuchus at the end, of the month.

SATURN is equally invisible. It rises at 6h. 58m. a.m. of the 1st and at 5h. 21m. a.m. of the 31st, setting at those times at 6h. 10m. p.m. and 4h. 19m. p.m. It is still in the constellation of Virgo. It is near the Moon at 6h. 55m. a.m. of the 2nd and 1h. 55m. p.m. of the 29th. It is in conjunction with the Sun at 3h. 9m. a.m. of the 14th.

URANUS rises at 8h. 54m. p.m. of the 1st, and at 1h. 55m. p.m. of the 31st, setting at those times at 1h. 36m. p.m. and 11h. 37m. a.m. respectively. It is in the constellation of Gemini. It arrives at its stationary point at midnight of Oct. 4, and is near the Moon at 2h. 12m. a.m. of the 20th.

## NOVEMBER.

THE SUN is south of the Equator throughout this month, and remains in the sign of Sagittarius until 0h. 16m. of the 22nd, when it passes into that of Sagittarius.

THE MOON is in conjunction with Jupiter at 1h. 33m. p.m. of the 1st; with Venus at 11h. 26m. p.m. of the 1st; with Mars at 9h. 23m. a.m. of the 15th; with Uranus at 10h. 38m. a.m. of the 16th; with Saturn at 8h. 46m. a.m. of the 26th; with Jupiter at 8h. 11m. a.m. of the 29th, and with Mercury at 3h. 51m. a.m. of the 30th. It is at its least distance from the Earth at 6h. p.m. of the 10th, and at its greatest at 1h. p.m. of the 22nd.

First Quarter occurs at 53 minutes past 11	on the evening of the 6th.
Full Moon	" 33 " 5 on the evening of the 13th.
Last Quarter	" 17 " 7 on the morning of the 21st.
New Moon	" 17 " 7 on the morning of the 29th.

OCCULTATIONS OF STARS BY THE MOON.—Nov. 19, Kappa Cancri, 5th magnitude; disappears at 11h. 27m. p.m.; reappears at 16 minutes after midnight; angles from vertex, 77 and 178 deg. respectively.

MERCURY is in the constellation of Virgo at the beginning, and in that of Ophiuchus at the end, of the month. It is badly situated for observation from its proximity to the Sun, arriving in superior conjunction at 7h. 5m. a.m. of the 10th. It is at its greatest orbital distance from the Sun at 11h. 13m. p.m. of the 19th; is near Jupiter at 4h. 49m. a.m. of the 22nd, and near the Moon at 3h. 51m. a.m. of the 30th. It rises on Nov. 1 at 6h. 17m. a.m., and on the 30th at 8h. 55m. a.m., setting at those times at 4h. 28m. p.m. and 4h. 17m. p.m. respectively.

VENUS now sets after the Sun in the south-west, and is increasing in brightness. It is in the constellation of Scorpio at the beginning, and in that of Sagittarius at the end, of the month. It rises on Nov. 1 at 9h. 34m. a.m., and on the 30th at 10h. 36m. a.m., setting at those times at 5h. 38m. p.m. and 6h. p.m. respectively. It is near the Moon at 11h. 26m. p.m. of the 1st, and in aphelion at 4h. 22m. a.m. of the 16th.

MARS is now a very conspicuous object in the heavens, arriving at its greatest degree of brightness at the end of the month, and being otherwise favourably situated for observation in those latitudes. It still remains in the constellation of Taurus. It rises on Nov. 1 at 6h. 6m. a.m., and on the 30th at 3h. 31m. p.m., setting at those times at 10h. 38m. a.m. and 8h. 15m. a.m., thus being visible throughout the long winter evenings and nights. It is near the Moon at 9h. 23m. a.m. of the 15th.



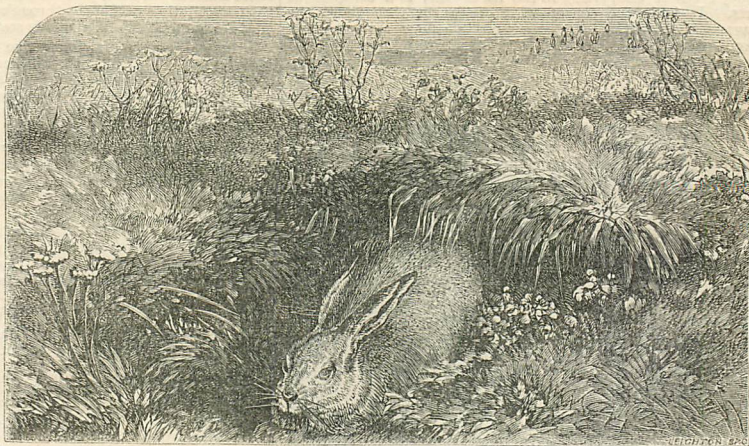
OCCULTATION OF THE STAR BETA CAPRICORNI, OCT. 9, AS SEEN IN AN INVERTING TELESCOPE.

JUPITER is not visible throughout the month, coming in conjunction with the Sun at 7h. 26m. a.m. of the 30th. It is in the constellation of Ophiuchus during the month. It rises on Nov. 1 at 9h. 1m. a.m., and on the 30th at 7h. 42m. a.m., setting at those times at 5h. 31m. p.m. and 8h. 56m. p.m. It is near the Moon at 1h. 33m. p.m. of Nov. 1, and at 8h. 11m. a.m. of the 29th.

SATURN becomes visible in the east during the early mornings at the latter part of the month. It is in the constellation of Virgo. It rises on Nov. 1 at

(Continued on page 51.)

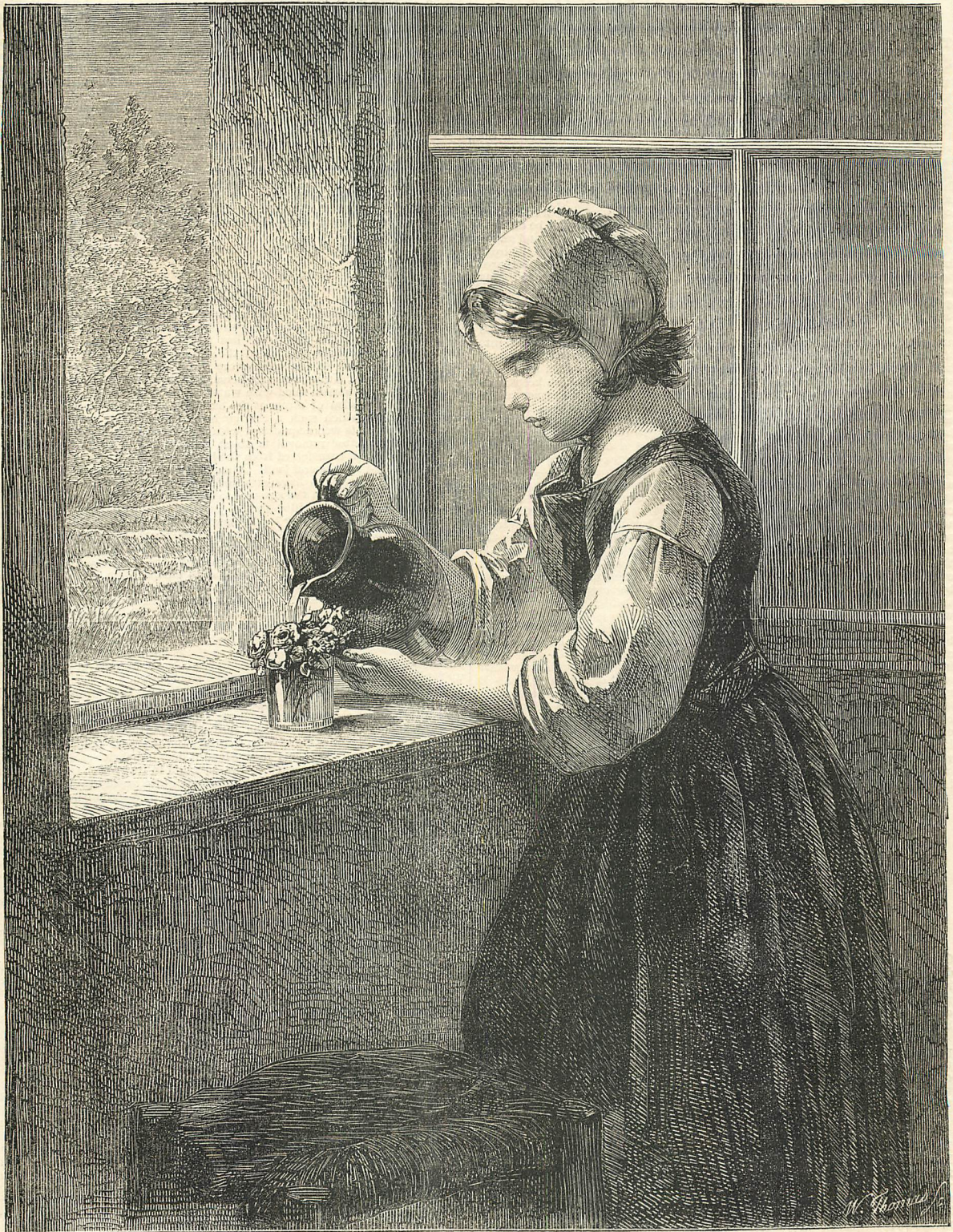




HARE-HUNTING BEGINS.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT			
			Rises.	Sets.	Age.	Rises.	Sets.	Age.	London Bridge.	Liverpool Dock.	Morn.	Aftern.
1	S	Cambridge Mich. Term beg.	6 35 36	6 37	5 32	1	2 12	2 29	11 21	11 35		
2	S	19TH S. AFT. TRIN.	6 45 33	7 41	5 57	2	2 43	2 57	11 51	—		
3	M	Treaty of Limerick, 1691	6 65 31	8 47	6 26	3	3 13	3 29	0 7	0 22		
4	Tu	Length of day 11h. 22m.	6 75 29	9 51	7 0	4	3 44	4 1	0 39	0 55		
5	W	Hyde Park Riots, 1862	6 95 27	10 54	7 42	5	4 17	4 32	1 10	1 28		
6	Th	Insurrection at Vienna, 1848	6 115 24	11 52	8 31	6	4 50	5 9	1 47	2 7		
7	F	Revolution of Geneva, 1846	6 125 22	Aftern.	9 31	7	5 29	5 52	2 30	2 52		
8	S	The Eddystone Lighthouse finished, 1759	6 145 20	1 30	10 37	8	6 14	6 42	3 20	3 49		
9	S	20TH S. AFT. TRIN.	6 165 18	2 9	11 50	9	7 11	7 47	4 25	5 6		
10	M	Oxford Michaelmas Term begins	6 185 16	2 43	Morn.	10	8 28	9 13	5 51	6 34		
11	Tu	Battle of Camperdown, 1797	6 195 13	3 12	1 8	11	9 56	10 38	7 16	7 51		
12	W	Battle of Warsaw, 1794	6 215 11	3 41	2 28	12	11 13	11 45	8 23	8 52		
13	Th	Day breaks 4h. 20m.	6 235 9	4 8	3 50	13	—	0 14	9 18	9 41		
14	F	Twilight ends 7h. 1m.	6 245 7	4 37	5 11	14	0 40	1 3	10 4	10 26		
15	S	Murat executed, 1815	6 265 5	5 8	6 32	15	1 26	1 48	10 48	11 10		
16	S	21ST S. AFT. TRIN.	6 285 2	5 44	7 52	16	2 10	2 32	11 33	11 57		
17	M	Houses of Parliament destr. 1834	6 295 0	6 25	9 8	17	2 55	3 19	—	0 18		
18	Tu	St. Luke	6 314 58	7 14	10 14	18	3 40	4 1	0 39	1 0		
19	W	Swift died, 1745	6 334 56	8 6	11 13	19	4 22	4 41	1 19	1 39		
20	Th	Battle of Navarino, 1827	6 354 54	9 5	Aftern.	20	5 1	5 23	2 1	2 24		
21	F	Nelson died, 1805	6 364 52	10 6	0 44	21	5 46	6 11	2 49	3 14		
22	S	Day breaks 4h. 45m.	6 384 50	11 10	1 17	22	6 36	7 2	3 40	4 11		
23	S	22ND S. AFT. TRIN.	6 404 48	Morn.	1 41	23	7 33	8 9	4 47	5 28		
24	M	Twilight ends 6h. 40m.	6 424 46	0 12	2 8	24	8 50	9 28	6 6	6 42		
25	Tu	Charge of Balaklava, 1854	6 434 44	1 15	2 32	25	10 4	10 41	7 19	7 53		
26	W	Marshal Soult died, 1851	6 454 42	2 18	2 53	26	11 15	11 43	8 21	8 45		
27	Th	Servetus executed, 1553	6 474 40	3 22	3 14	27	—	0 7	9 7	9 26		
28	F	St. Simon & St. Jude	6 494 38	4 27	3 36	28	0 29	0 48	9 45	10 3		
29	S	Bristol Riots, 1831	6 514 36	5 31	4 0	29	1 7	1 25	10 20	10 36		
30	S	23RD S. AFT. TRIN.	6 524 34	6 36	4 28	30	1 42	1 58	10 53	11 9		
31	M	Middle Temple Library opened, 1891	6 544 33	7 43	5 1	31	2 15	2 31	11 25	11 41		





"THE COTTAGE WINDOW," BY G. H. BOUGHTON.—FROM "THE ILLUSTRATED LONDON NEWS."

THERE is in this little picture a charm of simple, unforced naturalness, and a freedom from grimace, affectation, self-consciousness, or effort, really refreshing. The little maiden bends so prettily over her flowers and waters them from the large family jug with such natural solicitude. The outlook from the casement over the green spring crops and the little *sentier* beyond, is just such

a snatch of simple landscape as one sees in French pictures of this class. The little lassie herself has no pretensions to the beauty of our conventional studio rustics; but she is one of Nature's own wild flowers, and the artist could not have represented her more suitably employed. This was one of the pictures painted for the relief of the distressed cotton-spinners.



## FRESH-WATER FISHES IN THEIR SEASON.

SEPTEMBER AND OCTOBER.

THE carp family is very numerous, embracing the fishes illustrated in July and August as well as those of September and October; and we may, perhaps, be here allowed to state, in admiration of the power which illustrates this Almanack, that it is not an easy matter to paint a fish so as accurately to transmit to canvas its exquisite shape and glowing colours. The moment it is drawn from out its own element the shape alters and the colours fade; and in different localities the fish have, like the chameleon, different colours, so that the artist must have a quick eye and a responding hand to catch the rapidly-fleeting hues. Nothing, for instance, can be more beautiful than to watch the hauling of a drift of herring nets. As breadth after breadth emerges from the water, the magnificent colours of the fish flash with ever-changing hues upon the eye, a wonderful pantomimic mixture of glancing blue and gold, and silver and purple, blended into one great burning glow of harmonious colour. But, alas for the painter! unless he can instantaneously fix the burnished mass, the light of its colour will be extinguished, its beauty be dimmed long before the boat has time to reach the quay. The brilliant and gaudy fishes of the tropics are indeed gorgeous, as is the plumage of tropical birds; but for fine taste and beautifully-blended colour they are not to be compared to the common herring of our British waters. There is one of the carp family which is of a beautiful colour, and with which all are familiar—we mean the golden carp, which may be seen floating in its crystal prison in nearly every home of taste, and which swarms in the ponds at Hampton Court and in the tropical waters of the Crystal Palace at Sydenham. These gold and silver fish are supposed to be natives of China, whence they were introduced into this country by the Portuguese about the end of the seventeenth century, and have become, especially of late years, so common as to be hawked about the streets for sale. In China, as we have read, every person of fashion keeps goldfish by way of having a little amusement. They are contained either in the small basins that decorate the courts of the Chinese houses or in porcelain vases made on purpose; and the most beautiful kinds are taken from a small mountain lake in the province of Che-Kyang, where they grow to a comparatively large size, some attaining a length of eighteen inches and a comparative bulk, the general run of them being equal in size to our herrings. During the proper season the spawn of the golden carp is carefully collected and exposed for sale, and numbers of boats may be seen on the rivers and canals waiting to purchase it. These lovely fish afford great delight to the Chinese ladies, who tend and cultivate them with great care. They keep them in large porcelain basins, and a common earthen pan is generally placed at the bottom of these in a reversed position, and so perforated with holes as to afford shelter to the fish from the heat and glare of the sun. Green stuff of some kind is also thrown upon the water to keep it cool, and it (the water) must be changed at least every two days, and the fish, as a general rule, must never be touched by the hand. Great quantities of goldfish have been bred in ponds adjacent to factories where the waste steam being let in kept the water at a warmish temperature. In England the golden carp usually spawns between May and July, the particular time being greatly regulated by the warmth of the season; the time of spawning may be known by the change of habit which occurs in this fish. It sinks at once into deep water instead of basking on the top, as usual; previous to which the fish are restive and quick in their movements, throwing themselves out of the water, &c. It may be stated here, to prevent disappointment, that the golden carp never spawns in a transparent vessel. When the spawn is hatched the fish are very black in colour, some darker than others; these become the golden-coloured ones; while those of a lighter hue become silver. As is the case with the salmon, it is some time before this change occurs, some colouring at the end of one year, and some not till two or three seasons have come and gone. These beautiful prisoners seldom live long in their crystal cells, although the prison is beautiful enough, one would fancy:—

I ask, what warrant fixed them (like a spell  
Of witchcraft fixed them) in the crystal cell;  
To wheel with languid motion round and round,  
Beautiful, yet in mournful dances bound?  
Their peep, perhaps, our slightest footstep merr'd,  
Or their quick sense our sweetest music jar'd;  
And whither could they dart, if seized with fear?  
No sheltering stone, no tangled root was near.  
When fire or taper ceased to cheer the room,  
They were away the night in starless gloom;  
And when the sun first dawned upon the streams,  
How faint their vortices of his vital beams!  
Thus, and unable to complain, they fared,  
While not one joy of ours by them was shared.

Goldfish ought never to be purchased except from some very respectable dealer. We have known repeated cases where the whole of the fish bought have died within an hour or two of being taken home. These golden carp which are reared for sale are usually spawned and bred in warmish water, and they ought in consequence to be acclimated or "tempered" by the dealer before they are parted with.

Returning to the common carp, we may speak of it as being a most useful pond fish. It is a sort of vegetarian, or, at any rate, we may class it among the least carnivorous fishes; it feeds chiefly upon vegetables or decaying organic matter, and very few of them prey upon their kind; while some, it is thought, pass the winter in a torpid state. There is a rhyme which tells us that—

Turkeys, carp, hops, pickered, and beer,  
Came into England all in one year.

But this couplet must, we think, be wrong, as some of these items were in use long before the carp was known; indeed, it is not exactly known when this fish was first introduced into England, or where it was brought from, but we think it extremely possible that it was brought from Germany. In ancient times there used to be immense ponds filled with carp in Prussia, Saxony, Bohemia, Mecklenburg, and Holstein, and the fish was bred and brought to market with as much regularity as if it had been a fruit or a vegetable. The carp yields its spawn in great quantities, no fewer than 700,000 eggs having been found in a fish of moderate weight (10 lb.); and, being a hardy fish, it is easily cultivated, so that it would be profitable to breed in ponds for the fish-markets of populous places, and the fish salesmen assure us that there would be a large demand for good fresh carp. It is necessary, according to the best authorities, to have the ponds in suites of three—viz., a spawning-pond, a nursery, and a receptacle for the large fish, and to regulate the numbers of breeding fish according to the surface of water. It is not our intention to go minutely into the construction of fishponds; but we may be allowed to say that it is always best to select such a spot for their site as gives the engineer as little trouble as possible. Twelve acres of water divided into three parts

would allow a splendid series of ponds, the first to be three acres in extent, the second an acre more, and the third to be five acres; and here it may be observed that, with water as with land, a given space can only yield a given amount of produce, therefore the ponds must not be overstocked with brood. Two hundred carp, twenty tench, and twenty jack per acre is an ample stock to begin with. A very profitable annual return would be obtained from these twelve acres of water; and, as many country gentlemen have even larger sheets than twelve acres, we recommend this plan of stocking them with carp to their attention. There is only the expense of construction to look to, as an under-keeper or gardener could do all that was necessary in looking after the fish. A gentleman having a large estate in Saxony, on which was situated no less than twenty ponds, some of them as large as twenty-seven acres, found that his stock of fishes added greatly to his income. Some of his carp weighed fifty pounds each, and, upon the occasion of draining one of his ponds, a supply of fish weighing five thousand pounds was taken out; and for good carp it would be no exaggeration to say that sixpence per pound weight could easily be obtained, which, for a quantity like unto that of this Saxon gentleman, would amount to a sum of £125 sterling. Now, we have the authority of an eminent fish salesman for stating that ten times the quantity here indicated could be disposed of among the Jews and Catholics of London in a week, and, could a regular supply be obtained, an unlimited quantity might be disposed of.

As showing what can be done in the way of growing pond fish, we may state that near Brussels there are several ponds for rearing the kind of fish we have been alluding to. They are the property of Mr. Maltby, and we here transcribe, but not literally, the following account (by Mr. Simeon) of some of the operations performed on that gentleman's fish-lakes of La Hulpe and Boisfuit. Although the proprietor has a pretty good supply of water for these ponds, in fear of the qualities of the streams being different, he exchanges his fish from one lake to the other every year, transporting the smaller fish from Boisfuit to La Hulpe, and vice versa, an operation which is easily effected by means of large barrels filled with water. The jolting of the cart keeps the fish lively, and a wisp of straw at the bung-hole admits a plentiful supply of air. The effect which such a change has upon Jack is very remarkable. Mr. Simeon, who is well acquainted with the facts, tells us that the increase in their weight after removal is about ten pounds a year! In 1856, Mr. Maltby marked and transferred from the large lake at Boisfuit to the pond of La Hulpe forty-five 2-pound jack. After being eighteen months in the latter pond they were found to have attained a weight of from fifteen to twenty pounds. This increase in the size was so sudden and unexpected that nearly all the smaller fish were killed by the jack before they could be removed to some of the smaller ponds. "In the beginning of 1857 Mr. Maltby had purchased and turned into the lake at Boisfuit 900 carp of a particularly good breed, weighing one with another a pound each; but of these, when the water was let out in the month of October, not a single one was to be found, the jack not having suffered a solitary individual to escape them. Since that time Mr. Maltby has allowed no jack to be put into his water as stock above a pound in weight, which (as younger fish do not gain weight so fast) will not increase in a year to more than about three or four pounds. It is only after attaining that weight that their growth becomes so astonishingly rapid. In the lake at Boisfuit jack, perch, and white fish breed fast, but the fish born in that lake do not increase so fast by two-thirds as those born in La Hulpe; so that, although their transport from the one to the other is expensive, yet it is made up for by the increase of weight in the fish transported."

The carp spawns about the end of May, and the eggs that escape the animals that prey upon them become attached to weeds and pieces of wood, and so, in time, get hatched; but, although large quantities of them are deposited, a very great percentage, as is the case with most other fishes, never comes to light. The carp must have room to grow, and it grows much more freely in some waters than in others; in Scotland it does not thrive at all, we cannot say for what reason. The carp is not so rapid in its growth as some of the other fishes we have been describing, although quite rapid enough to be profitable, as they grow at least half a pound a year; and specimens of 20 lb. and 30 lb. weight are by no means rare. They attain a great age if not disturbed, specimens having been known that were more than a century old. On the estate in Saxony to which we have referred the proprietor had breeding carp that were old fish when he bought the estate, and he had been in possession of them for fifty years. The carp is greatly indebted to the cook for the good appearance he makes at table. In our opinion the flavour and quality of the fish, considered gastronomically, are by no means exquisite, when compared with other fishes. Isaac Walton says that angling for carp requires no end of patience; and again, when a net is used, there is a difficulty, as the fish bury themselves in the mud. In the Thames there are specimens of the "cruciana," or, as the fishermen call it, the German carp, to be found; and the gibel, or Prussian carp, is pretty common all over England.

Roach are in fine season in October and November. It is a pretty fish, with a bright red eye, fins tipped with red, and brilliant scales of silver. It is a very foolish fish, and is easily taken by means of ground bait. We hear of great shoals of this fish inhabiting Loch Lomond and some other waters in Scotland; but, from all we can learn, we may look upon the home of the roach, so far as the angler is concerned, as being the Lea or the Thames; and the roach, it may be stated, is eminently a fresh-water fish. As to the Loch Lomond roach, Dr. Parnell found that it left the loch in great bodies to ascend the tributary streams in order to spawn; and that during this period, which is rarely prolonged beyond three days, the rivers literally swarm with them, and on such occasions immense quantities are taken by the poor people for food in baskets and other utensils; and it has been noticed by anglers that when these fish are on the march, so to speak, no other kind can be caught, because they are all gorged with the spawn of the roach. The barbel and the dace are also members of the carp family, and the former is sometimes called the bluish-white carp, and is a very handsome fish, and also a prolific one. It spawns in May or June, and, in course of time, grows to a large size, specimens having been taken which weighed 20 lb. Dace are in season from August to April, and afford tolerable sport to anglers who don't know any better; and the same may be said, generally, of the carp family. There is the gudgeon, for instance, which is known as the silvery olive carp: it will take any sort of bait, so that a mere child may capture it.

His bait the least red worm that may be found,  
And at the bottom it doth always lie,  
Whereat the greedy gudgeon bites so sound  
That hooks and all he swalloweth by and by.

Gudgeons were, and indeed are still, so numerous that it was at one time supposed that they spawned twice a year. This arose, no doubt, from the fact of the fish of different waters spawning at different times. Every river has its own season; some are earlier than others—some later. Hence, if a proper study of the different spawning seasons of all our British rivers was entered into we might have clean salmon and other wholesome fish all the year round.



5h. 17m. a.m., and on the 30th at 3h. 42m. a.m., setting at those times at 4h. 15m. p.m. and 2h. 26m. p.m. It is near the Moon at 3h. 46m. a.m. of the 26th.

URANUS is now visible throughout the night in the constellation of Gemini. It rises at 6h. 51m. p.m. of Nov. 1, and at 4h. 53m. p.m. of the 30th, setting at those times at 11h. 33m. a.m. and 9h. 35m. a.m. respectively. It is near the Moon at 10h. 39m. a.m. of the 16th.

## DECEMBER.

THE SUN is south of the Equator during this month, and remains in the sign of Sagittarius until 1h. 3m. p.m. of Dec. 21, when it passes into that of Capricornus, and the winter quarter commences.

The MOON is in conjunction with Venus at 2h. 4m. a.m. of the 2nd; with Mars at 1h. 11m. a.m. of the 12th; with Uranus at 6h. 8m. p.m. of the 13th; with Saturn at 5h. 15m. p.m. of the 23rd; with Jupiter at 4h. 32m. a.m. of the 27th; with Mercury at 4h. 59m. a.m. of the 30th, and with Venus at 1h. 56m. a.m. of Jan. 1, 1865. It is at its least distance from the Earth at 10h. p.m. of the 6th, and at its greatest at 9h. a.m. of the 20th.

First Quarter occurs at 34 minutes past 7 on the morning of the 6th.	
Full Moon " 12 " 7 on the morning of the 13th.	
Last Quarter " 3 " 5 on the morning of the 21st.	
New Moon " 22 " 9 on the afternoon of the 28th.	

OCULATIONS OF STARS BY THE MOON.—Dec. 5, Kappa Aquarii, 5th magnitude, disappears at 8h. 35m. p.m.; reappears at 9h. 29m. p.m.; angles from vertex 177 and 294 deg. respectively. Dec. 15, Lambda Geminorum, of 3<sup>d</sup> magnitude; disappears at 6h. 2m. a.m.; reappears at 6h. 52m. a.m.; angles from vertex 81 and 331 deg. respectively. Dec. 20,  $\rho$  Leonis, of 5th magnitude; disappears at 2h. 48m. a.m.; reappears at 4h. 5m. a.m.; angles from vertex 14 and 255 deg. respectively.

MERCURY is in the constellation of Ophiuchus at the beginning, and in the borders of Capricornus and Sagittarius at the end of the month. It is best seen at the end of the month, being at its greatest easterly elongation from the Sun at 4h. 3m. p.m. of the 22nd, when it sets after the Sun. It rises on Dec. 1 at 8h. 59m. a.m., and on the 31st at 8h. 55m. a.m., setting at those times at 4h. 19m. p.m. and 5h. 19m. p.m. respectively. It is stationary at 8h. 26m. p.m. of the 29th, and near the Moon at 4h. 59m. a.m. of the 30th.

VENUS is now conspicuous in the south-west as the evening star. It rises at 10h. 37m. a.m. of the 1st and at 10h. 16m. a.m. of the 31st, setting at those times at 6h. 2m. p.m. and 7h. 30m. p.m. respectively. It is in the constellation of Sagittarius at the beginning, and on the borders of those of Capricornus and Aquarius at the end of the month. It is near the Moon at 2h. 44m. a.m. of Dec. 2, and shortly after midnight of the 31st. It is close to, and directly east of, Iota Capricorni at 1h. 8m. a.m. of the 29th; is directly west, and close to Gamma Capricorni at 9h. 32m. a.m. of the same day; and in a similar position with respect to Delta Capricorni at 5h. 46m. p.m. of the 30th.

MARS arrives at opposition at 5h. 58m. a.m. of Dec. 1, and is very bright throughout the month in the constellation of Taurus. It rises at 3h. 25m. p.m. on Dec. 1, and at 1h. p.m. of the 31st, setting at 8h. 9m. a.m. and 5h. 32m. a.m. respectively. It is near the Moon at 1h. 11m. a.m. of the 12th.

JUPITER still continues hid in the rays of the Sun. It remains in the constellation Ophiuchus throughout the month. It is near the Moon at 4h. 52m. a.m. of the 27th. It rises at 7h. 39m. a.m. of the 1st and at 6h. 15m. a.m. of the 31st, setting at those times at 3h. 53m. p.m. and 2h. 17m. p.m. respectively.

SATURN is seen in the east late at night or early in the morning, rising at 3h. 38m. a.m. of Dec. 1, and at 1h. 53m. a.m. of the 31st, and setting at those times at 2h. 22m. p.m. and 0h. 31m. p.m. respectively. It is in the constellation Virgo, and is near the Moon at 5h. 15m. p.m. of the 23rd.

URANUS is now most favourably situated, arriving in opposition at 2h. 5m. a.m. of the 19th. It is near the Moon at 6h. 8m. p.m. of the 13th. It is visible throughout the night, rising at 4h. 49m. p.m. of Dec. 1 and at 2h. 45m. p.m. of Dec. 31, and setting at 9h. 31m. a.m. and 7h. 27m. a.m. respectively at those times. It is in the constellation of Gemini.

## ECLIPSES IN 1864.

WHEN there are only two eclipses in a year, both of those must be of the Sun. This, the smallest number of eclipses which can occur in a single year, takes place in the year 1864. Neither of those eclipses will be visible in the British Islands.

The first occurs on May 5, 1864, and is annular. It will only be seen in this latter condition in the North Pacific Ocean, but will be visible as a partial eclipse in a part of Siberia, the North of Australia, and the northernmost parts of North America. It begins generally at 9h. 30m. p.m. of Greenwich time at 128° 56' of East Longitude, and 1° 23' of South Latitude. It ends at 3h. 3m. a.m. of May 6, on the Earth generally in Longitude 130° 25' West and 20° 9' of North Latitude.

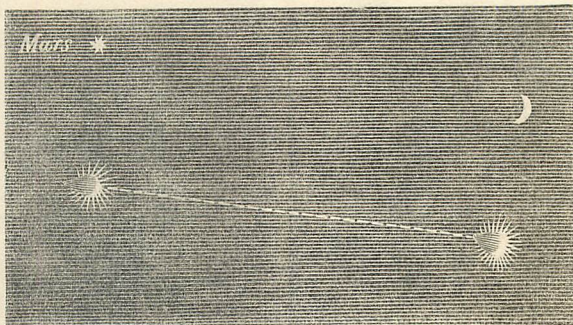
The second eclipse is also annular, and occurs on October 30, 1864. It will be seen as annular in South America, the South Pacific and South Atlantic Oceans, at between twenty and thirty degrees of South Latitude. A partial eclipse will be seen for a short time in the United States of America and the Western Coast of Africa, at the first place for a few moments after sunrise, and at the latter just before sunset.

## KAPPA CANCRI.

AT the disappearance of this star at the Moon's dark limb on the evening of April 26, 1863, Mr. Ralph Copeland, of West Gorton, near Manchester, observing with a good telescope, noticed a remarkable occurrence. He states "the disappearance was very remarkable. About three fourths of the light disappeared in the usual instantaneous manner; and after an interval of (as near as I could judge) rather more than half a second—the remaining portion disappeared. I did not observe the reappearance. I was so surprised at the totally unexpected phenomenon, that I cannot give the time (i.e. the interval between the partial and total disappearance) great weight; but I am certain that it was less than one second." As it would follow from the above that this star must be a very close double, the Rev. Mr. Dawes scrutinised it carefully with his great telescope; but even with this, and aided by his extraordinary vision, he could not perceive anything beyond the simple disc. It will be seen that Kappa Cancri is occulted three times by the Moon during 1864, and at favourable hours, viz.: on January 24; February 21, and November 19. In observing the same occultation at Highbury on the same occasion, Mr. Burr did not perceive anything extraordinary.

## GREAT METEOR ON NOVEMBER 27, 1862.

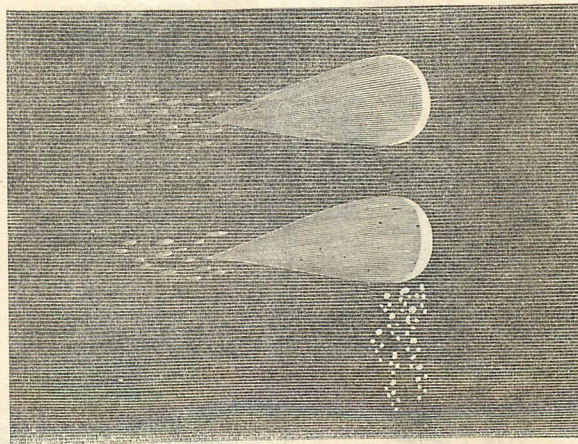
ONE of the brightest meteors which has been seen for many years appeared on the night of Nov. 27, and, although visible only for a moment, it created great astonishment to those who had the good fortune to witness this remarkable sight. It appears to have been seen by numerous observers in the north, south, and centre of England, and even in Ireland and in France; so that it seems probable that sufficient data are available to calculate its path and height. This latter, as is well known, varies very considerably, ranging from seven to upwards of three hundred miles, so that the greater number of those bodies fly through space at an altitude considerably exceeding the height of the Earth's atmosphere. Their velocity is equally variable, ranging from two to



TRACK OF THE METEOR.

fifty miles per second, so that it follows that they traverse space with a velocity exceeding that of the Earth and other planets, the former of which travels round the Sun at the rate of less than nineteen miles per second. Although they appear of such immense size when blazing in the sky, yet considerable allowance must be made for the suddenness and brilliancy of their aspect, which render eye-measurement rather illusive. Their size must not, however, be judged of from the fragments of aerolites which have fallen on the Earth's surface, which are generally comparatively small. The meteor of April, 1852, was estimated to be 105 ft. in diameter; and that of 1841 was supposed to be upwards of 12,000 ft. in diameter. Not knowing the height of the late meteor, it would be impossible to form any idea of its dimensions, although, from its immense diameter and brilliancy, it may fairly be presumed to have been of more than the average size. It has been found that, in general, the direction of their motion is in the contrary sense to that of the Earth's rotation on its axis; and the meteor of Nov. 27 forms no exception to that rule, passing in a westerly direction with great rapidity. It has been supposed that those blazing stars are similar in composition to the ordinary aerolites, out of eight hundred of which the fall of thirty-five has been witnessed. At the time of falling into fragments a loud explosion is sometimes heard, which, however, does not appear to have been the case on the present occasion.

Sketches and descriptions have been forwarded to us by numerous correspondents; but Mr. Lowe, who observed it at Beeston, seems to have seen it under the most favourable circumstances, having witnessed the breaking up of the body into numerous pieces, as delineated in the accompanying diagrams. At Beeston the direction of its course was almost between the stars Beta Ceta and Fomalhaut. Mr. Bridger, of Tonbridge, writes as follows:—"It appeared in sight near the planet Mars, and descended, at a comparatively slow rate, across



THE METEOR AND SPARKS AS SEEN BY MR. LOWE.

the sky under the Moon, and at about half way from the Moon to the horizon it was lost to sight; the disc of light was about one third the size of the Moon, but so intensely bright that the whole of the neighbourhood was illuminated, and the Moon itself appeared to be gone. The colour of the disc was a beautiful violet, and the long train of light was of various colours—green and violet, yellow and red." Mr. Griffin, of Peckham, writes that the meteor "passed from east to west with the rapidity of a skyrocket, its nucleus far exceeding the brightness of the Moon, the rays or halo about it being of a bright blue, and the tail as brilliant as the nucleus." It is remarkable that both these gentlemen, in their drawings of the meteor, show it with a long and slender

(Continued on page 54.)





FOX-HUNTING IN FULL SWING.

D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.		MOON.		HIGH WATER AT	
		Rises.	Sets.	Rises.	Sets.	London Bridge.	Liverpool Dock.
1 Tu	<i>All Saints</i>	6 56	4 31	8 46	5 40	2 2 47	3 3 11 59
2 W	<i>All Souls</i> Michaelmas Term begins	6 58	4 29	9 47	6 28	3 3 21	3 38 0 16 0 34
3 Th	Battle of Hohenlinden, 1800	7 0	4 27	10 41	7 25	4 3 56	4 14 0 52 1 12
4 F	Chartist Riots at Newport, 1839	7 1	4 25	11 29	8 29	5 4 34	4 52 1 30 1 52
5 S	Day breaks 5h. 7m.	7 3	4 24	Aftern.	9 38	6 5 14	5 37 2 15 2 39
6 S	24TH S. AFT. TRIN. Victor Emmanuel at Naples, 1860	7 5	4 22	0 44	10 51	7 6 1	6 30 3 8 3 36
7 M	Affair of the Trent, 1861	7 7	4 20	1 15	Morn.	8 6 58	7 31 4 9 4 48
8 Tu	Prince of Wales born, 1841	7 8	4 19	1 42	0 9	9 8 10	8 51 5 29 6 9
9 W	Twilight ends 6h. 14m.	7 10	4 17	2 9	1 28	10 9 31	10 8 6 46 7 24
10 Th	<i>St. Martin</i>	7 12	4 16	2 37	2 46	11 10 46	11 20 7 58 8 27
11 F	Revolution at Berlin, 1848	7 14	4 14	3 5	4 5	12 11 49	— 8 54 9 19
12 S	25TH S. AFT. TRIN.	7 15	4 13	3 38	5 26	13 0 16	0 41 9 45 10 8
13 S	Leibnitz died, 1716	7 17	4 11	4 15	6 42	1 7	1 30 10 32 10 55
14 M	Minorea captured, 1798	7 19	4 10	5 1	7 53	15 1 54	2 17 11 16 11 38
15 Tu	Length of day 8h. 45m.	7 21	4 8	5 53	8 58	16 2 38	3 0 11 59 —
16 W	Relief of Lucknow, 1857	7 22	4 7	6 49	9 52	17 3 21	3 42 0 20 0 40
17 Th	Funeral of the Duke of Wellington, 1832	7 24	4 6	7 50	10 38	18 4 2	4 23 1 1 1 20
18 F	Battle of Arcole, 1796	7 26	4 5	8 54	11 15	19 4 42	5 3 1 41 2 3
19 S	26TH S. AFT. TRIN.	7 27	4 3	9 59	11 45	20 5 25	5 47 2 25 2 47
20 S	Princess Royal born, 1840	7 29	4 2	11 2	Aftern.	21 6 9	6 31 3 9 3 32
21 M	<i>St. Cecilia</i> Lacordaire died, 1861	7 31	4 1	Morn.	0 35	22 6 54	7 21 3 59 4 30
22 Tu	Twilight ends 6h. 0m	7 32	4 0	0 5	0 57	23 7 52	8 28 5 6 5 39
23 W	Antwerp surrendered, 1832	7 34	3 59	1 8	1 17	24 9 1	9 34 6 12 6 45
24 Th	Michaelmas Term ends	7 36	3 57	2 12	1 39	25 10 7	10 38 7 16 7 50
25 F	Sandwich Islands disc., 1778	7 37	3 57	3 17	2 26	11 12	11 40 8 18 8 44
26 S	1ST SUND. IN ADV.	7 39	3 56	4 22	2 29	27 —	0 6 9 6 9 28
27 S	Twilight ends 5h. 57m.	7 40	3 55	5 28	2 59	28 0 28	0 50 9 47 10 6
28 M	American Independence recognised, 1782	7 42	3 54	6 35	3 37	29 1 9	1 28 10 26 10 44
29 Tu	<i>St. Andrew</i>	7 43	3 54	7 38	4 22	30 1 48	2 6 11 5 11 22
30 W		7 45	3 53	8 36	5 16	1 2 27	2 46 11 42 —



T. Macgillivray 1862





"COUNT EBERHARD THE WEEPER" (COTTA'S EDITION OF SCHILLER).—FROM "THE ILLUSTRATED LONDON NEWS."

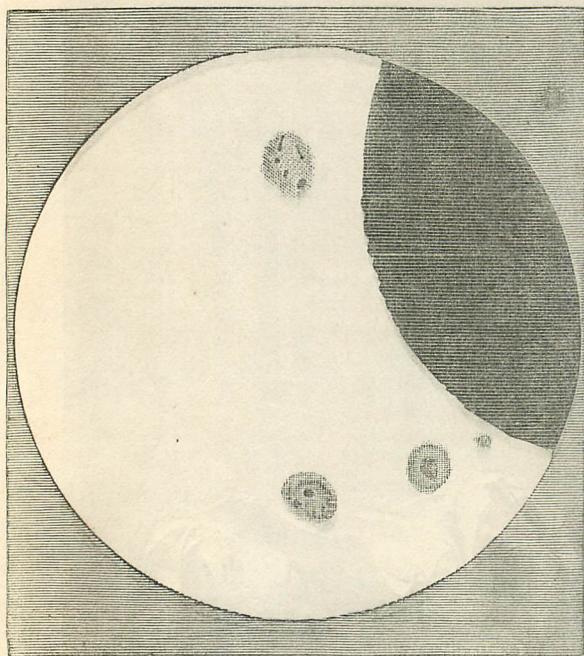


tail, whilst by others it was supposed to be kite-shaped. The writer judged it to be of the latter form, having seen it to great advantage. The duration of its appearance was estimated to be not longer than three seconds, in which interval it passed through an arc of about fifty degrees. It preserved almost the same brilliancy throughout its course, appearing and disappearing equally suddenly. It did not seem to move with extraordinary velocity across the heavens. At first it appeared of a dazzling and splendid blue tint, but afterwards changed its colour to yellow; but this may be owing to a slight mist which prevailed at the part of the sky at which it disappeared. It seemed almost equal in dimensions to the Moon, but had not the same sharp outline as that body, and its great brilliancy prevented the eye from forming any exact idea of its size. The most natural comparison of its appearance was that of a skyrocket passing slowly across the heavens, and varying in colour as it went along. Although a train was narrowly looked for, none could be perceived, nor does the bursting of it into fragments appear to have been seen at London or Tonbridge, although the sky was clear at the former place at least.

### THE ECLIPSE OF THE SUN, MAY 17, 1863.

THE subjoined figure represents the eclipse of May 17 at its maximum. There are some groups of spots on the Sun's surface, and the edge of the Moon is rough in places, showing the lunar mountains projected on the bright background of the Sun. The view was taken with a five-foot telescope.

As seen near the metropolis, the Moon entered upon the Sun's disc at 5h. 42m. p.m., Greenwich time, at a point 88 deg. from the vertex towards the west, or nearly at the right-hand extremity of the Sun's horizontal



THE ECLIPSE OF THE SUN, MAY 17, 1863.

diameter. The eclipse was at its maximum at 6h. 29m. p.m., when nearly one-third of the solar diameter was covered by the Moon; and ended at 7h. 12m. p.m., about half an hour before sunset, the last contact occurring a little to the left of the apparent upper point of the disc.

### VENUS.

It will be seen from the phases and relative dimensions of the disc of Venus given at page 34 that it will be unfavourably situated for telescopic observation during 1864, and that it does not once assume its crescent aspect. It will be best seen at the beginning and end of the year.

### SATURN.

DURING the disappearance of the ring in 1862, M. Otto Struve perceived certain luminous appendages, which were not the same as the ansæ of the ring. They were, however, first observed in December, 1861, by Mr. Wray, who has given representations of this singular appearances in the *Astronomical Society's Reports* of January, 1863. It will be seen from the diagrams at page 44 that the ring will be considerably more open at the latter end of the year than at the beginning.

### NEPTUNE.

ALTHOUGH Neptune is by no means a faint object, yet it has been seen by comparatively few observers. It is visible with the help of a small telescope or comet-seeker, and shines as a star of the eighth magnitude. At page 45 its path during the latter part of 1864 is given, from which its place may readily be found. Its appearance is quite different from that of the neighbouring stars, and it is easily detected by an experienced eye, as it shines with a mild and somewhat blue lustre, and no scintillation is apparent.

### OCCULTATION OF BETA CAPRICORNI.

THE brightest star occulted by the Moon during 1864 in those latitudes is that of Beta Capricorni, of the third magnitude, which disappears at 8h. 35m. p.m., and reappears at 9h. 28m. p.m., of October 9. The manner in which the angles are reckoned, as given under the head "Occultation of Stars by the Moon" in each month, will be seen from the diagram at page 45. If an inverting telescope be used (as is always supposed to be the case) the angles from vertex are reckoned from the top round by the right.

### COMETS IN 1863.

OF the three comets discovered in the course of 1863 only one—that discovered by Professor Respighi, at Bologna—was bright enough to be seen by the naked eye. On April 26 it is described by Mr. Hodgson as "a beautiful object, very brilliant, and a miniature of Donati's Comet; decided stellar nucleus, and tail of at least a degree in length; visible to the naked eye. The comet discovered by Dr. Klinkerfues could, however be seen during mo

### NEW PLANETS.

SINCE the publication of the ILLUSTRATED LONDON ALMANACK for 1863 four new planets have been discovered. The first, making the seventy-fifth of the group of asteroids, was discovered by Dr. Peters, at the Hamilton College Observatory, United States, on Sept. 22, 1862. The second, or the seventy-sixth of the group, was detected by the same observer on the 12th of November of the same year; but only a few imperfect observations of it could be made, so that it will be almost impossible to re-discover it, as no orbit could be calculated. It was excessively faint, which we suppose was the reason it could not be followed after the 23rd of November. The seventy-seventh of the group was detected at Copenhagen, on Nov. 14, 1862, and has received the name of Freia. It was discovered by Professor D'Arrest. The seventy-eighth planet was found by Dr. Luther, at Bilk, on March 15, 1863, and has received the name of Diana.

### TINTED ASTRONOMICAL ILLUSTRATIONS.

#### NEBULA OF ORION.

THE most remarkable nebula visible in our northern heavens is that situated in the richest portion of the constellation of Orion. With every improvement of the telescope some new feature is disclosed in this curious-looking object, nor has the past year been barren in this respect, Professor Bond having come to the conclusion that it is spiral in structure (although the folds are more complicated than in those described by Lord Rosse), whilst Mr. Lassell has detected a new star in the trapezium. The Russian astronomers have also made a valuable addition to our knowledge in their catalogue of the stars at and near the nebula, whilst Professor Secchi has shown that it extends much further than was formerly thought. In addition to being one of the largest it is also one of the brightest nebulae visible in those latitudes, and the principal convolutions are plainly seen in a good telescope of moderate dimensions, although it is only in the largest instruments that it can be seen in its full magnificence. The present engraving is on a small scale and taken from the large drawing made by Sir J. Herschel during his stay at the Cape of Good Hope. Its general appearance resembles the head and shoulders of some marine monster with its jaws opened and furnished with an immense proboscis. It is in extent about half a degree right and left, and almost as large from the upper to the lower parts. The four very bright stars situated near its centre and forming a trapezium, give it a very brilliant aspect, and it is very curious that there is not the least trace of nebulosity in the interior space contained by those stars, it being as dark as the exterior sky. There are many other brilliant stars scattered about the nebula, but they do not appear to have any connection with it. Two very faint stars are situated near the four bright ones, but it requires great optical power in order to show them. It has been conjectured, from a comparison of the earlier and later drawings of this object, that great changes have taken place since its discovery by Huyghens, in 1656; but, if we view it with instruments of different degrees of power and excellence, the various contradictions will be accounted for. The changes which were actually noticed by Sir W. Herschel in the course of nearly fifty years' experience are more difficult to be explained. That celebrated observer found that, particularly between 1780 and 1811, the nebula of Orion had changed both in form and extent, which, to use the expression of Arago, was "*avoir pris la nature sur le fait*." The experience of Struve, making use of the great Pulkowa telescope, confirms that of the elder Herschel. Sir John Herschel, however, is not of this opinion, and says, that comparing his own drawings of 1824 and 1837, "the disagreements, though confessedly great, are not more so than I am disposed to attribute to inexperience in such delineations (which are really difficult) at an early period—to the far greater care, pains, and time bestowed upon the later drawings, and above all, to the advantage of local situation, and the very great superiority in respect both of light and defining power in the telescope at the latter over which it possessed at the former epoch." But the certain variability in the light of nebula, which has been fully proved within the last few years, and the very careful attention which has been bestowed on this object by Struve, using the same telescope and always situated in the same locality, may warrant us to suppose that some change has taken place.

Although this nebula was long considered as irresolvable, and, as such, was considered a proof of the existence of a nebulous or cloudy matter in the sidereal regions, yet of late years, owing to the greater power and better definition of the telescopes made use of, its resolvability has been fully established. With instruments of lesser power the nebulous part takes the appearance of woolly masses with a mottled and curdling light, and it is only when the most powerful reflector or refractor is turned on it that it assumes the form of veritable "star dust" and a granular aspect. This beautiful and remarkable object is best seen during the winter months, and of course the darkest and clearest night should be chosen for its examination; the presence of moonlight or twilight being carefully guarded against.

#### LUNAR ECLIPSE OF JUNE 1, 1863.

THE Lunar Eclipse which occurred on the above day was beautifully seen in the metropolis, and it very seldom happens that circumstances are so favourable when such phenomena are to be observed. Although not so exciting an incident as a total solar eclipse—the one producing some moments darkness during the day, when the contrast is very sudden, and the other an hour's darkness during night—yet the above event was observed with great interest by



numbers in the streets and on the bridges. During the whole of the eclipse the sky was splendidly clear, although in the earlier part of the evening it looked somewhat threatening. Had the eclipse occurred a few minutes earlier, we should have had a recurrence of what happened in the lunar eclipses of 1590, July 17; 1648, Nov. 3; 1666, June 16; and 1668, May 26, when the Moon rose eclipsed whilst the Sun was still apparently above the horizon. Those horizontal eclipses were noticed as early as the time of Pliny. We need not mention that neither the Sun nor Moon are really above the horizon at those times, but the refraction which elevates all celestial bodies raises those in the same manner, and makes both appear at the same time above the horizon.

In Eclipses of the Moon, the particulars to be observed have reference to its appearance and colour when it has fully entered into the shadow of the Earth, in addition to noting the times at which the umbra comes in contact with the edges and different mountains, which gives a ready, although from the difficulty of the observations, somewhat inexact method of determining longitudes. It has been frequently stated that when the Moon is most distant from the Earth during an eclipse, the light from it is much more brilliant than when it is nearest to us, and this would naturally occur from the greater breadth of the cone of shadow in which the Moon is immersed in the latter case. On the present occasion the Moon was at its shortest distance from the Earth about thirty hours later than the time of the eclipse. The greater darkness on the orb of the Moon in such instances was found to be really true on the present occasion—the Moon becoming exceedingly dim as the time of total eclipse approached, although not altogether obliterated at any period. This last occurrence is very rare; it is recorded in two instances, viz.: on April 25, 1642, when it disappeared entirely, and again on June 10, 1816, when no traces of the eclipsed Moon were seen either at London or Dresden. It was formerly supposed that this dim light which was seen when the Moon was entirely plunged in the shadow of the Earth, was due to the Moon itself shining with its own light, or of the light of the stars and planets shining on its surface and reflected from it. The true cause, we need scarcely mention, is, that the rays coming from the Sun are bent in passing the atmosphere of the Earth and pass obliquely into the cone of the shadow, which is consequently not altogether deprived of light as might at first sight be thought to be the case.

The colour of the Moon at the time of an eclipse is another point which has been open to argument. Here again the Earth's atmosphere plays an important part. This being unequally charged with vapours and exhalations at the different parts of the Earth at which the Sun's rays pass into the cone of darkness, those latter are sometimes more or less abundant; more or less broken and separated; more or less directed by refraction towards the axis of the cone, and cause different tints to be seen even in the course of the eclipse. It might not, perhaps, be impossible to tell the state of the sky at different parts of the globe by the simple observation of the edge of the shadow. But the state of the sky at the place of observation has, perhaps, the most potent effect on the above phenomena. In the eclipse of Dec. 23, 1703, the Moon appeared of different colour and degrees of obscurity at the various localities where it was observed.

In the present instance, the colour of the Earth's shadow on the lunar surface changed perceptibly during the eclipse. At first when the obscured part was of small dimensions, it was of an iron grey tint, but as it approached totality, the reddish light became so apparent that it was remarked that the Moon "seemed to be on fire," and when the totality had commenced it certainly looked like a fire smouldering in its ashes, and almost going out. The bluish tint at the edge of the shadow was well seen about ten minutes before the Moon was extinguished, and when the eclipsed and ruddy portion of the Moon's surface was very apparent. Both the blue and red portions of the Moon are satisfactorily accounted for under those circumstances. The rays of sunlight which pass through the lower parts of the Earth's atmosphere always assume a red tint, and when a comparatively faint white light is placed beside such a ruddy tint it appears, from contrast, of a decided blue colour. It has been remarked that the ruddy tint is not uniform over the lunar disc when eclipsed; but this, as before stated, is explained by the different states of the Earth's atmosphere through which the solar light is refracted before arriving at the Moon.

Although the first contact with the half-shadow took place at 8h. 49m. p.m., yet this was so faint that the time could not be accurately noted. When even the real shadow appeared there was an uncertainty of some seconds; the time noted was 9h. 46m. 30s. The commencement of total darkness was observed to be 10h. 53m. 13s., and the times when the Moon's disc reappeared occurred at 11h. 55m. 43s. As the Moon's light diminished, various small and faint stars were seen in the immediate neighbourhood of its disc, and one of those to the south disappeared at 10h. 48m. 47s. 5. The advancing shadow passed over the mountain Erastosthenes at 10h. 13m. 58s.; over Pico at 10h. 26m. 58s.; across the central part of Plato, or the Lacus Niger of the ancients and one of the darkest portions of the Moon at 10h. 29m. 48s. The retreating shadow passed over Aristarchus, the brightest spot on the lunar surface, at 12h. 49m. 43s. These (Greenwich) times were taken by an admirable pocket chronometer made by M. Baume, F.S.A., F.R.A.S. (who kindly assisted at these observations) and was one of those for the going of which he received the Prize Medal at the Exhibition of 1862. On the present occasion its rate was found to be excellent.

At the time of totality the Moon presented a soft woolly appearance, apparently more globular in form than when fully illuminated. Traces of the larger and brighter mountains were visible at the time of totality, and particularly the bright rays proceeding from Tycho, Kepler, and Aristarchus. The sky being beautifully clear, the effect of the Moon's light in obliterating the fainter stars was very apparent. As the light became gradually dimmer, one star after another came out (even those close to the Moon), until at length the whole of the Milky Way, which had previously been invisible, stood out with all its beautiful undulations and varying brightness. The adage "*stellæ inter luna minores*" was reversed for a short interval, when the stars were most conspicuous. Although the last contact with the real shadow occurred at a few minutes past one, it was not until two o'clock that the Moon's light was free from the penumbra. These observations were made with a telescope of five-feet focus, and nearly four inches aperture, and mounted equatorially.

A more favourable lunar eclipse will not occur for some years. Although, in general, there are more solar than lunar eclipses—forty one solar and twenty-nine lunar occurring in the space of eighteen years (*or the Saros*), yet at any one locality there will be fewer solar than lunar eclipses, the latter being visible only over one half the globe, whilst the former is confined to a small portion of the Earth.

The first figure represents the appearance of the Moon at the time of total eclipse, and the second as it approached totality.

#### CLUSTER IN SAGITTARIUS.

If the constellations of Coma Berenices and Virgo are the richest in nebulous objects, those of Scorpio and Sagittarius are so in clusters, and their position in

respect to the Milky Way is very remarkable. We give here a sketch of a beautiful object of this class taken with the Northumberland telescope of the Cambridge Observatory, although a much less powerful telescope is sufficient to show it very well. The stars are pretty bright and thickly scattered. It can scarcely be called a globular cluster, as it does not present the condensed centre and rounded appearance of that class; but with a telescope of moderate size some idea may be formed of the richness and beauty which the latter presents with superior optical aid. This object is situated at R. A. 18h. 26m. and N. P. D. 114° 2', and is Messier 22. There are two sizes of stars in this cluster—those of the 11th and those of the 15th magnitudes—the former have a ruddy tint.

#### MARS.

MARS again comes into opposition with the Sun in the winter of 1864, and, though not so large as during its appearances in 1860 and 1862, will still approach sufficiently near the Earth and Sun to be well seen and a brilliant object during the dark nights of November. We give its appearance as seen in an excellent refracting telescope, made by Wray, on Dec. 10, 1862, at which time, however, it had become much smaller and its gibbous aspect was very conspicuous. From observations made by Mr. Lassell at Malta during the last appearance, he comes to the conclusion that great atmospheric changes take place continually in this planet, and he occasionally finds great difficulty in recognising its seas and continents, although it is well known that these are the permanent spots of its globe. Mr. Joynson, of Liverpool, noticed that the general colour of the planet was yellow, with the exception of a part of the northern hemisphere, which was reddish. The spots he found to be of a dead, greenish cast, sometimes purple, but in the main very dark. The northern hemisphere was always best defined, the southern rather indistinct; and he found that the snow at the south pole was not exactly on the axis of rotation. The relative dimensions of the disc of Mars is given at page 41, and the path of Mars during opposition at page 35.

#### JUPITER.

IN last year's Almanack will be found an elaborate drawing of Jupiter, taken in 1862 by Mr. Wray, with one of his excellent telescopes. The present engraving of Jupiter is taken with an instrument by the same maker, which, for its excellent definition, may be classed with the best telescopes of Fraunhofer. It was observed by Mr. Buckingham, C.E., who kindly communicates the following notes of the aspect of the planet at 10h. 45m. p.m. of April 28:—"The belts were broader than any previously noticed, and there was an entire break through the upper one at the centre, with a long canal stretching a considerable distance into it. There was an intensely black spot at the centre, the division between the belts to the right of which was quite white. Indications of an upper faint belt were seen, and the poles of the planet were covered for a considerable distance with faint but indistinct cloudiness. The black spot was again seen on the evening of May 7, on which occasion three belts were plainly visible, in the upper one of which white spots were visible. Two more detached faint spots were visible at the same time. The telescope used had an object-glass of five inches in diameter, and was one of those which gained the prize medal in the Exhibition of 1862. The relative dimensions of the disc of Jupiter in 1864 are given at page 44.

#### GREAT COMET OF 1861.

THE Rev. T. W. Webb has lately published an account of the great comet which appeared in the summer of 1861, and has given a drawing of its aspect as it appeared on the first night of its discovery in those latitudes. The envelopes were numerous, as will be seen from the Engraving, and arranged in the most complicated form; and with the bright nucleus "it was as though a number of light, hazy clouds were floating around a miniature full moon." The most brilliant of the luminous veils was that in the interior issuing from the nucleus like an actual jet or stream. The envelopes (six in number) could not be traced for any considerable distance from the head, and were surrounded by the usual diffused nebulosity. From the absence of any phase Mr. Webb concludes that the nucleus contained no concentration of opaque matter, and that it did not shine by intrinsic light. Its rotation on an axis he also considers improbable, as the luminous rays always issued from the same part, and there were no indications of rotation in the tail. The luminous fan-light round the nucleus he found was of later formation than the envelopes, and much posterior to the perihelion passage. The nebulous veils he found to be invariably brighter at one side than the other. This comet was visible for a great length of time, and was observed nine months after its first appearance, but, of course, after the months of July and August it was an exceedingly faint object, and only visible in the largest telescopes.

#### SOLAR SPOT OF JULY AND AUGUST, 1862.

In the Great Exhibition of 1862 there might have been noticed some excellent "autographs" of the Sun, taken by Professor Selwyn and Mr. Titterton, of Ely; and among those a somewhat remarkable one, photographed during the harvest period of that year, showing a notch in the margin of the Sun, produced by the presence of a dark spot. This group of solar spots (which is copied in the Engraving, from a drawing by Mr. Howlett) was of great dimensions, the greatest length being upwards of 120,000 miles. The interior of the principal spot was not entirely black, there being a large mass of brilliant light near the nucleus, which, on July 25, embraced a superficial area of 72,000,000 square miles, and which was as completely insulated as the nucleus itself from the bright surface of the Sun by a distinct penumbra. This lustrous patch contracted considerably during the two following days; and, although very apparent at 7h. 30m. a.m. of July 27, when the drawing was taken, had altogether disappeared at 3h. p.m. of the same day. The great point of interest, however, in connection with this group was its disappearance during the day of Aug. 4, and the question as to whether it made a distinct notch in the margin of the Sun, as shown by the photographs, which latter would argue their cavernous nature. Luckily the spot was observed by Mr. Howlett on several occasions between seven in the morning and six in the evening, by which latter time the spot had disappeared, with the exception of a few penumbral patches and groups of faculae. At this time, also, a real but very small notch was perceived, but not so large as that represented in the photograph as existing in the earlier part of the day. The care with which Mr. Titterton's sun-pictures are taken, and the sharpness of their definition, was amply demonstrated by the specimens at the International Exhibition, but the discrepancy may be accounted for by supposing that the plate was not exposed a sufficient length of time for the dim light of the margin of the sun to impress its image properly, and that the bridge of light between the real margin and the spot was imperfectly taken.



# DECEMBER.



MARTIN AT A NEST.

D. OF M.	D. OF W.	ANNIVERSARIES, FESTIVALS, REMARKABLE EVENTS.	SUN.			MOON.			HIGH WATER AT			
			Rises.	Sets.	Age	Rises.	Sets.	Age	London Bridge.	Liverpool Dock.		
1	Th	Day breaks 5h. 41m.	7 46	3 52	9 26	6 19	2	3 4	3 23	0 1	0 21	
2	F	Emperor of Austria abdicated, 1848	7 48	3 52	10 11	7 29	3	3 43	4 3	0 41	1 2	
3	S	Twilight ends 5h. 56m.	7 49	3 51	10 48	8 42	4	4 24	4 44	1 22	1 45	
4	S	2ND SUND. IN ADV.	7 50	3 51	11 19	9 59	5	5 7	5 30	2 8	2 34	
5	M	Mozart died, 1792	7 52	3 50	11 47	11 17	6	5 56	6 21	2 59	3 27	
6	Tu	Canadian Rebellion, 1837	7 53	3 50				6 49	7 17	3 55	4 26	
7	W	Ney executed, 1815	7 54	3 50	0 39	0 34	8	7 48	8 24	5 2	5 39	
8	Th	Baxter died, 1691	7 55	3 49	1 7	1 49	9	9 1	9 36	6 14	6 52	
9	F	Grouse-shooting ends	7 56	3 49	1 35	3 6	10	10 14	10 48	7 26	8 2	
10	S	Carlisle taken, 1745	7 57	3 49	2 11	4 23	11	11 24	11 53	8 31	9 1	
11	S	3RD SUND. IN ADV.	7 58	3 49	2 51	5 35	12	—	0 23	9 26	9 54	
12	M	Length of day, 7h. 50m.	7 59	3 49	3 39	6 41	13	0 48	1 16	10 18	10 42	
13	Tu	Council of Trent met, 1545	8 0	3 49	4 33	7 41	14	1 40	2 4	11 4	11 25	
14	W	Prince Albert died, 1831	8 1	3 49	5 34	8 29	15	2 26	2 47	11 47	—	
15	Th	Bonaparte interred at Paris, 1840	8 2	3 49	6 36	9 11	16	3 9	3 29	0 7	0 26	
16	F	Cambridge Michaelmas Term ends	8 3	3 49	7 42	9 45	17	3 48	4 9	0 47	1 4	
17	S	Oxford Michaelmas Term ends	8 4	3 49	8 47	10 13	18	4 26	4 44	1 22	1 41	
18	S	4TH SUND. IN ADV.	8 4	3 50	9 51	10 38	19	5 3	5 22	2 0	2 21	
19	M	Day breaks 6h. 0m.	8 5	3 50	10 53	11 1	20	5 43	6 2	2 40	3 0	
20	Tu	Twilight ends 5h. 57m.	8 6	3 50	11 57	11 22	21	6 22	6 42	3 20	3 42	
21	W	St. Thomas	8 6	3 51		11 44	22	7 4	7 25	4 3	4 31	
22	Th	Metropolitan Board appointed, 1855	8 7	3 51	1 1		23	7 53	8 23	5 1	5 36	
23	F	Prince Consort buried, 1861	8 7	3 52	2 4	0 29	24	8 58	9 31	6 9	6 42	
24	S	Length of day 7h. 46m.	8 7	3 53	3 10	0 58	25	10 4	10 36	7 14	7 48	
25	S	CHRISTMAS DAY	8 8	3 53	4 16	1 31	26	11 10	11 41	8 19	8 50	
26	M	St. Stephen	8 8	3 54	5 20	2 13	27	—	0 12	9 14	9 36	
27	Tu	Johanna Southcot died, 1814	8 8	3 55	6 22	3 32	28	0 36	0 58	9 59	10 22	
28	W	Innocents	8 8	3 56	7 17	4 3	29	1 21	1 44	10 44	11 6	
29	Th	Archbishop Beckett assass. 1170	8 8	3 57	8 6	5 11	0	2 6	2 28	11 27	11 48	
30	F	Kossuth at Washington, 1851	8 8	3 58	8 48	6 26	1	2 49	3 10	—	0 10	
31	S	Wickliffe died, 1384	8 8	3 59	9 22	7 44	2	3 32	3 52	0 30	0 50	





"THE GRAPPLERS," MODELLED BY MOLIN.—FROM "THE ILLUSTRATED LONDON NEWS."

THERE was no work in sculpture in the International Exhibition of 1862 which attracted, and deserved to attract, so much attention, and which elicited so much and so nearly unanimous admiration, as this group which was exhibited in the nave before the Swedish Court. Critics of the most opposite schools had agreed to praise its masterly vigour, and the public was fascinated with the terror of its situation. We know of nothing in modern sculpture which can be quite fitly compared with this death struggle, and little in ancient art except the group of "The Wrestlers," or, more correctly, "The Pancratiasts," in the tribune of the Uffizi at Florence. Above all, it has national character—the national character which made the old Greek sculpture what it was more,

far, than the idealising theories with which we credit antiquity. There is the true old fiery Norse spirit in the grim duel of these two men, relentlessly belted together, to be separated only by death. The combat is so vigorously and graphically rendered that it seems to border on exaggeration, and comes perilously near that line which in art should always be drawn betwixt terror and horror; but still, as madness may be allied to great wit, so the apparent exaggeration here is allied to the most tremendous and heroic truth of human nature. The cause of this deadly quarrel was jealousy—that rivalry which has given so many tragic subjects to the poets of all ages, from Homer to Tennyson.



## FRESH-WATER FISHES IN THEIR SEASON.

NOVEMBER AND DECEMBER.

THE grayling, as may be seen from our Drawing, is a delicate but beautiful fish. The grayling possesses more than usual interest just at present from the many successful attempts which are being made to acclimatise it in rivers to which it has hitherto been a stranger. It is supposed by some writers on natural history to have been originally introduced into British rivers by the monks. There is every probability of this having been the case; indeed, from what we know now of pisciculture, we can readily guess how the feat was accomplished, although Yarrall and others thought that the fish was too delicate to bear removal. The ancients were adepts in the art of propagating fish, and able to transport the ova to long distances, and so people rivers and ponds that had hitherto only contained common trout, or perhaps eels and carp, with the finest kinds of the Salmonidae. In Scotland, for instance, there are some mysterious fish, the presence of which in the lochs of that country cannot be otherwise accounted for than by their introduction from some of the Continental fish-preserves. The Lochleven trout we need not again revert to, as it, we think, owes its peculiar flavour and fine colour to the kind of food to which it has access. But the vendace of Lochmaben deserves some little attention. So far as we know, this fish is not found elsewhere than in Dumfriesshire. The history of this mysterious fish is that it was introduced to this country by Mary Queen of Scotland from France or Italy. The vendace is called by the common people a fresh-water herring, and in general appearance it is not unlike the *Clupea harengus*, and it is also remarkable that in some of their habits vendace very much resemble herrings. They spawn about the commencement of November; and at that period they gather into shoals, and occasionally rise to the surface of the water in the same manner as the common herring, making at the same time a similar popping noise by their rise and fall in the water. The vendace is a remarkably tender fish, very prolific, and very shy in its habits, requiring to be caught with a net; and when once taken from the water its death is certain, even if it be immediately restored to its native element. This fish is known by naturalists to be so tender that it could not bear transportation even the length of a few miles, and it must, therefore, have been introduced into Lochmaben by means of its spawn. The late Dr. Knox gave us some interesting information about this fish; but most of it is too scientific to be stated in these pages; and in some of his disquisitions he has gossiped pleasantly enough of the "vendies," as the country people call the fish. Shorn of its mystery, it is still fished at stated intervals, and eaten at homely festivals, got up for the occasion much in the same way as people go down to Blackwall or Greenwich to eat whitebait. It brings the country folks together for a "jollification," spends the little rustic animosities which lairds and farmers indulge in, and benefits the inn. The vendace is a moderately good fish to eat, but in no way particular as to flavour; and the persons who introduced it into Lochmaben may have failed to take into account that it was being brought to a very different feeding-ground from that which it enjoyed in its Continental home. The professed naturalist, it may be remarked, arranges the vendace in the family of the Corrigoni. Another fresh-water herring may be here alluded to—viz., the powan of Lochmond, which is also worthy of notice as one of the specialities of fish peculiar to Scotland. The powan, as it is called by Parnell, is classed among the Salmonidae, and is found in great quantities in the lochs we have mentioned. Although we have once or twice seen a few powan taken by clever anglers, with a small artificial fly, the fish is usually caught by means of a net, and they have never been known to be taken by bait. In the months of August and September the powan is in the best condition for the table; they are then considered to be well flavoured, wholesome, and delicate food. They shed their spawn from October to December, and remain out of condition till March. The grayling, we have no doubt, was once as rare a fish in this country as the vendace is at present, and by means of fructified eggs we believe both the powan and the vendace could be acclimatized in most of our English lochs. In the Clyde, where the grayling has lately been introduced, it is already affording sport to the angler, and in November it will rise to the fly, when there is no possibility of rousing a trout. As to the habits of the grayling, it is a great ground feeder, and eats up the spawn of other fishes; but for all that it forms a fine addition to the fishes of any particular stream, and would be a capital substitute for some of the coarser fishes.

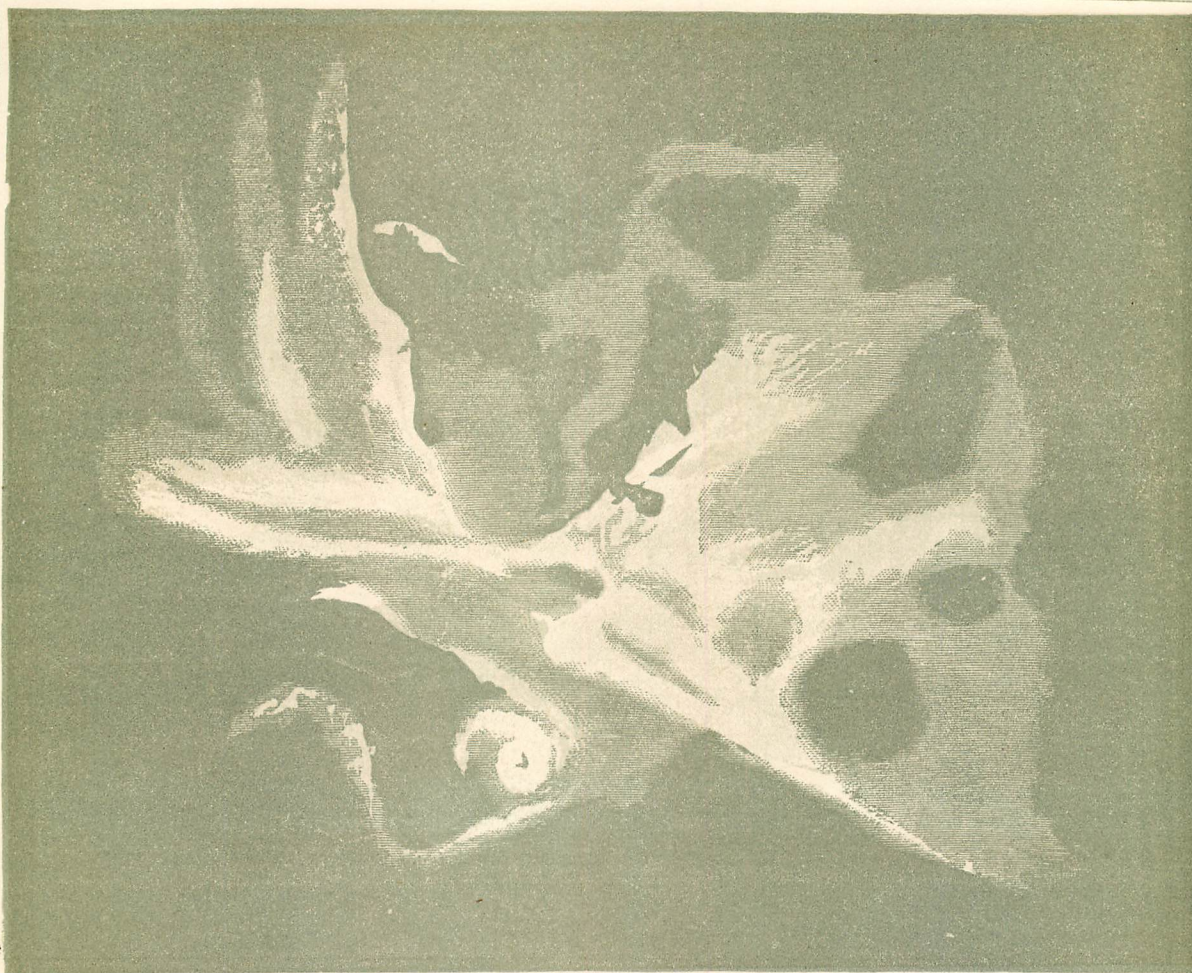
In the art of transporting fishes from stream to stream, and in many of the other points of the artificial breeding and nursing of fish, we have much to learn. The Chinese, we believe, have taught all the world how to hatch and propagate on the artificial system now coming into vogue. It is known that they carry on the system of fish-breeding to a vast extent, and that, in consequence, the whole of the great inland rivers and canals of that immense country teem with good eatable fish, chiefly of the carp or perch kind. We have been told that they collect the eggs of the fish, and, cramming them into an eggshell, have them hatched with great celerity by placing them under a fowl! As is now well known, the ancient Italians were adepts in the art of pisciculture, deriving the rudiments of their knowledge, no doubt, from the Celestial world; the famed gourmets of ancient Rome were celebrated for their fishponds, and for their different ways of crossing and breeding fish. When do we ever hear now of a single carp being so fine in flavour and so large in size as to be worth £80? When do we ever hear now of a man leaving behind him at his death thirty thousand pounds' worth of fish? Or when are we likely at Whitstable or Colchester to breed oysters worth their weight in gold? Such things were accomplished, and such prices attained, however, by the art of pisciculture in the palmy days of ancient Italy. The luxurious Romans had attained to the greatest possible perfection in the arts of flavouring and breeding fish; but for a long period the art became lost, and not till exactly a century ago (1763) was it again made known, when it was re-discovered by an ingenious German named Jacobi, who reared trout by the artificial impregnation of the ova. After Jacobi's experiments the art again fell into disuse, and it was not discovered, so far as commercial purposes are concerned, till 1842. The person who re-discovered pisciculture, in its exact modern phase, was a fisherman of the Moselle. In the course of his avocations he had been much struck with the rapidly diminishing supply of fresh-water fish—so much a necessity of life for the good Catholics of inland France. It now became clear enough to Remy and a coadjutor who worked with him that "unless something could be done" the supply would speedily become exhausted. Setting his wits to work, he arrived at the conclusion that the demand for fish had become greater than the supply, and that, unless the supply could be increased to an unlimited extent, the capital stock at that period in the rivers of the Vosges would speedily be so exhausted as to be incapable of the power of reproduction. Remy, of course, knew that fish of all kinds were extraordinarily fecund, and he never could see that the yield of mature animals fit for the purposes of the table was at all in proportion to the quantity of eggs deposited by the fish. It therefore gradually dawned on Remy that the cause

of the scarcity must be in the waste of the eggs and the destruction of the fry, and the true way to restore the *status quo* was to afford the young fish protection, which he concluded must be done by securing the eggs and guarding them till they came to life, and afterwards feeding the fry till they were able to seek their own living. Acting at once upon this idea, Remy set to work, and in this simple way inaugurated the present gigantic system of fish-culture which is now giving fresh life to the French waters. He began at first by collecting the eggs of trout and other fish, and also by confining the gravid animals till they spawned in his preserves. He was thus enabled to protect the spawn from all kinds of enemies, having before him, at the same time, the certainty that all the eggs, deducting a slight percentage, would come to life. Then, again, the young fish, being protected from their numerous enemies, adds enormously to the percentage of animals annually reared to a productive point. Growing bolder in his operations as his experience increased, Remy and his coadjutor next began to capture the fish as they were about to spawn, and thus make sure of their eggs by hand manipulation, the fructification of fish eggs being an external act. This plan answered admirably, and in the course of a few years the rivers of France—we mean, of course, that division experimented upon by Remy—became once more so populous as to attract the attention of some of the great scientific men of the country. The result may be easily foreseen—the French Government at once took up the subject of artificial cultivation, Remy and his coadjutor were rewarded with great liberality, and the system of fish-breeding became henceforth blended in one of the French departments. We now trace it under the thoroughly-scientific management of M. Jacques Coste, of the French Institute, under whose advice has been created the great piscicultural laboratory at Huningue, near Basle, from which has emanated an annual supply of fish-eggs sufficient to repeople nearly all the rivers of France with the best of fish. This establishment is well worth a few words of description. It has been in existence for a period of ten years; it occupies a space of about seventy acres, and contains a residence for the superintendent and suitable offices for the transaction of business. It requires and obtains a perpetual supply of pure spring water, and is fitted up with troughs and cisterns for containing the eggs. These are not obtained from the fish in the establishment, but are collected in Switzerland and elsewhere, and brought to the establishment by persons who make it their business to gather them, and for which labour they are paid at the rate of about twenty pence per thousand. To prevent immature eggs being brought to the establishment, none but respectable fishermen are communicated with, and an attendant is sent, when requested, to take charge of the eggs and bring them safely to Huningue. Large numbers of eggs are obtained from the Rhine and from the rivers and lakes of Germany; and the question naturally occurs to us, how about the lakes and rivers whence the eggs are taken? Does this plan not injure them? On consideration, however, it will be easily seen that here the wonderful fecundity of fish comes into operation. Say that a fish contains ten thousand eggs, and that ten such fishes are captured and robbed of their spawn, and that the male fish is made to yield his milt—and one or two males will fructify thousands of eggs—the loss to the lake or river from the annual destruction which goes on is almost infinitesimal, whilst the general gain is undoubtedly very considerable. Eggs of all the best known fresh-water fishes can be obtained from Huningue, and there are many kinds which we have not in England. It is noteworthy, also, that the French Government are by no means illiberal in their dealings, as we could name several gentlemen in this country who have received supplies. The eggs, after being detained for a certain time at Huningue, are sent out packed in damp moss, and it has been found that they can be sent in this condition to great distances, to the Thames for instance, with perfect safety.

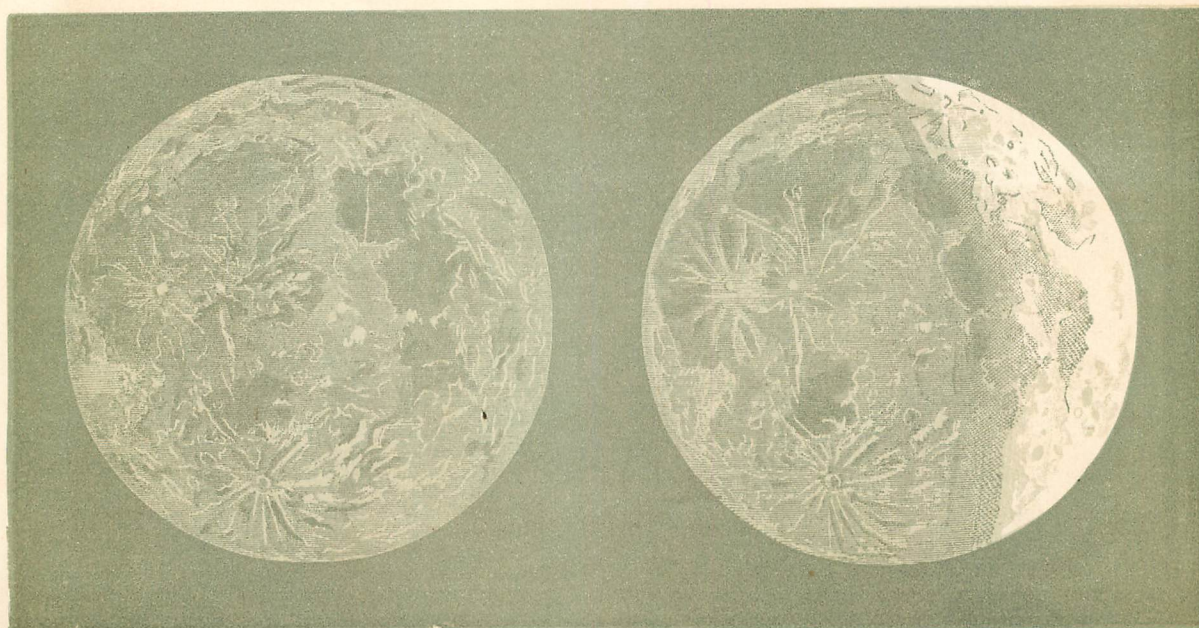
Fish fecundity is the foundation of artificial hatching. The female salmon yields a thousand eggs for every pound of her weight. The trout, according to situation, is equally fecund: in good feeding-ground it yields eggs by the thousand, but in poor places, where the food is scarce, the growth is stunted, and the eggs only come by the hundred. A moderate-sized perch will contain a hundred thousand eggs, and a jack (the young pike) will yield forty thousand, whilst a large pike will give double that number. A carp, again, exceeds the perch, and will yield two hundred thousand eggs; but all these are overtopped by some of the sea fishes, as, for instance, the codfish or the sturgeon, which yield their eggs in millions! This fecundity is not more, however, than is required to meet the loss consequent on the unprotected state of the young fish and the loss of eggs from various causes, already particularised in another page of this gossip.

But there is a still more curious fish-breeding establishment than Huningue, a knowledge of which may interest our readers. We allude to the great eel-breeding dépôt at Comacchio. This is an exceedingly primitive and curious place, which has existed for several centuries, and annually produces a vast amount of fish food; in fact, it is the largest fish-breeding establishment we know of. It has been formed in a vast lagoon near where the river Po debouches into the Adriatic. Canals and pools have been formed, and a series of entrances and exits for the fish have been constructed with great engineering skill. So productive has the fish commerce of Comacchio ever been, that even so far back as the year 1597 the annual income derived from the eels and other fish was £12,000, whilst in 1792 it was £16,000. The eel, as our readers may know, migrates to the sea to spawn, and ascends the fresh water to live; this is the fact on which the establishment at Comacchio has been founded. The seeding of the lagoon begins at an early period of the year, so early as February, when the gates are opened, and then hundreds of thousands of young eels find their way into the water; so many that it takes two months for them to ascend, and, certain kinds of fish being provided for them to feed upon, they speedily attain a cookable size, for the community at Comacchio not only grow their fish but cook them as well, having immense kitchens provided for that purpose, and in this cooked state the fish are sent for sale to the chief cities of Italy, where they are very acceptable during Lent. Other fish besides eels are cultivated—soles, plaice, and dory being abundant. The chub is also grown in great plenty. At one stage of its existence it takes more than a thousand of this fish to weigh a pound; but at the end of twelve months, so good is the feeding-ground, the fish attains a length of twelve inches, and has of course added greatly to its weight. On some occasions great hauls of fish are taken, one thousand baskets being taken at a few hauls. The people inhabiting the islands of this lagoon are quite as primitive as the general run of fisher people, and, being good Catholics, they are more than usually observant of the fasts and festivals of their Church, in addition to which they have many little ceremonies of their own—a great feast is held, for instance, when a certain amount of fish is taken in any one morning. The labours of the fishermen are pursued under a rather strict discipline, but all are healthy and happy; and we can learn from this quiet fish farm that it is as easy, and more profitable, to cultivate the water as it is to cultivate the land; and it is certain that by so doing we might largely augment our food supplies and add to the productive resources of this great country.





THE GREAT NEBULA IN ORION.

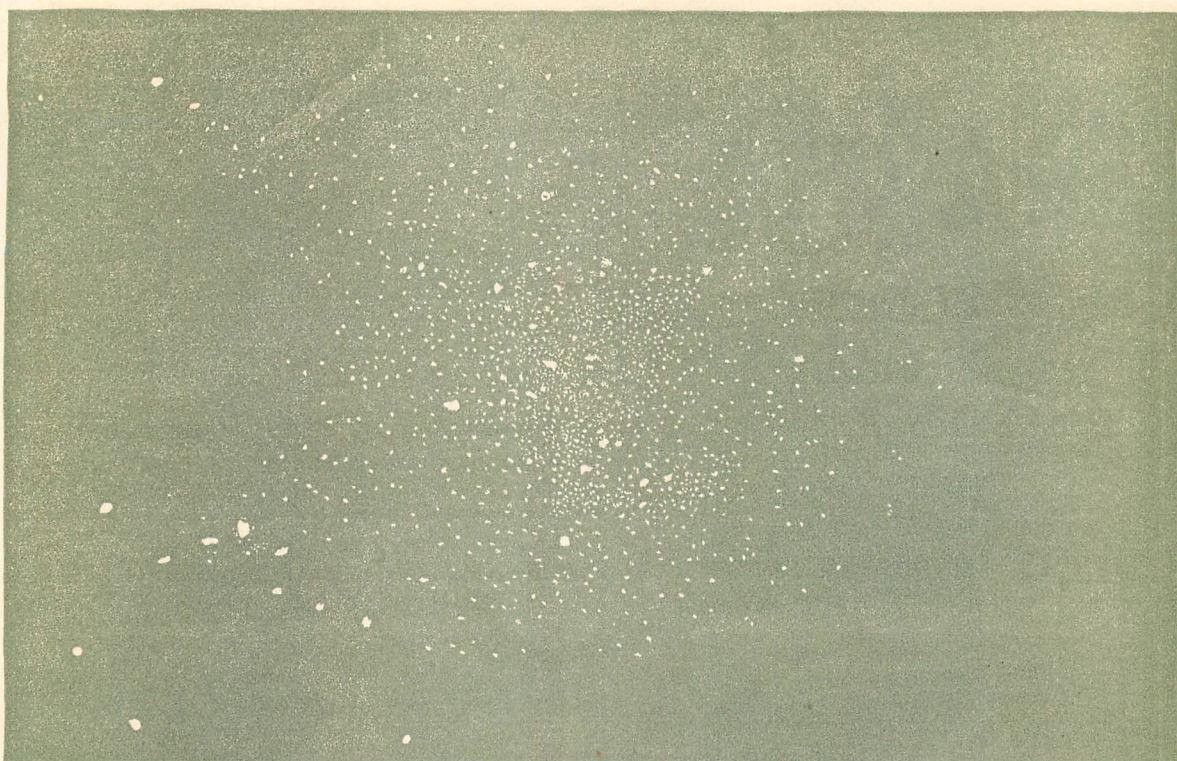


TOTAL ECLIPSE.

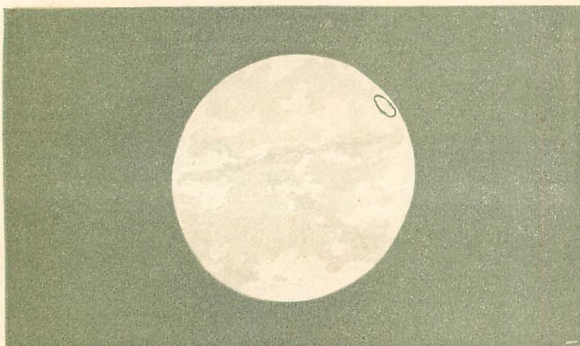
LUNAR ECLIPSE OF JUNE 1, 1863.

PARTIAL ECLIPSE.

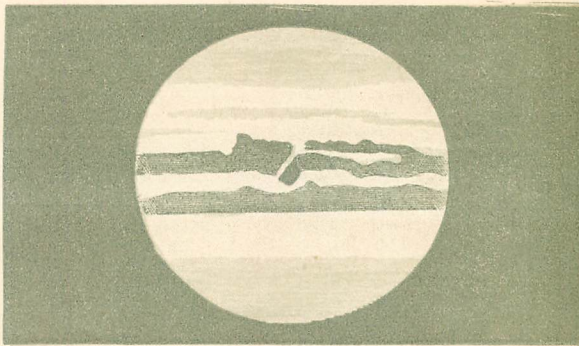




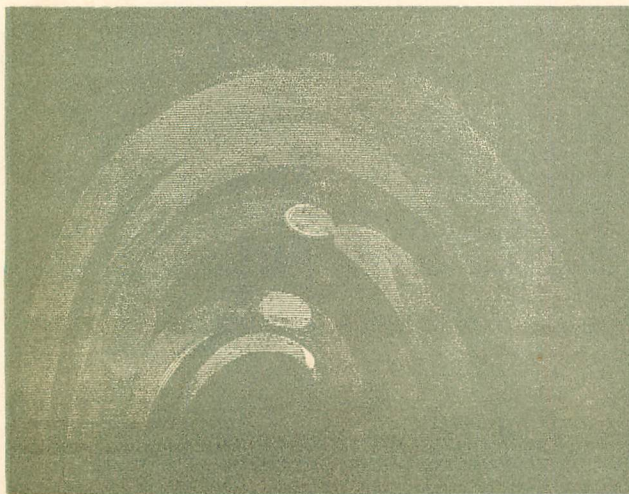
RICH CLUSTER IN SAGITTARIUS, R. A. 18H. 26M., N. P. D. 114° 1'



MARS, DECEMBER 10, 1862.



JUPITER, APRIL 28, 1863.



COMET, 1861, JUNE 30.



SOLAR SPOT, 1862, JULY 27, 7H. 30M. A.M.





PIKE AND PERCH.





SALMON.





TROUT AND CHAR

LEIGHTON BROS.









CARP AND ROACH.





GRAYLING.